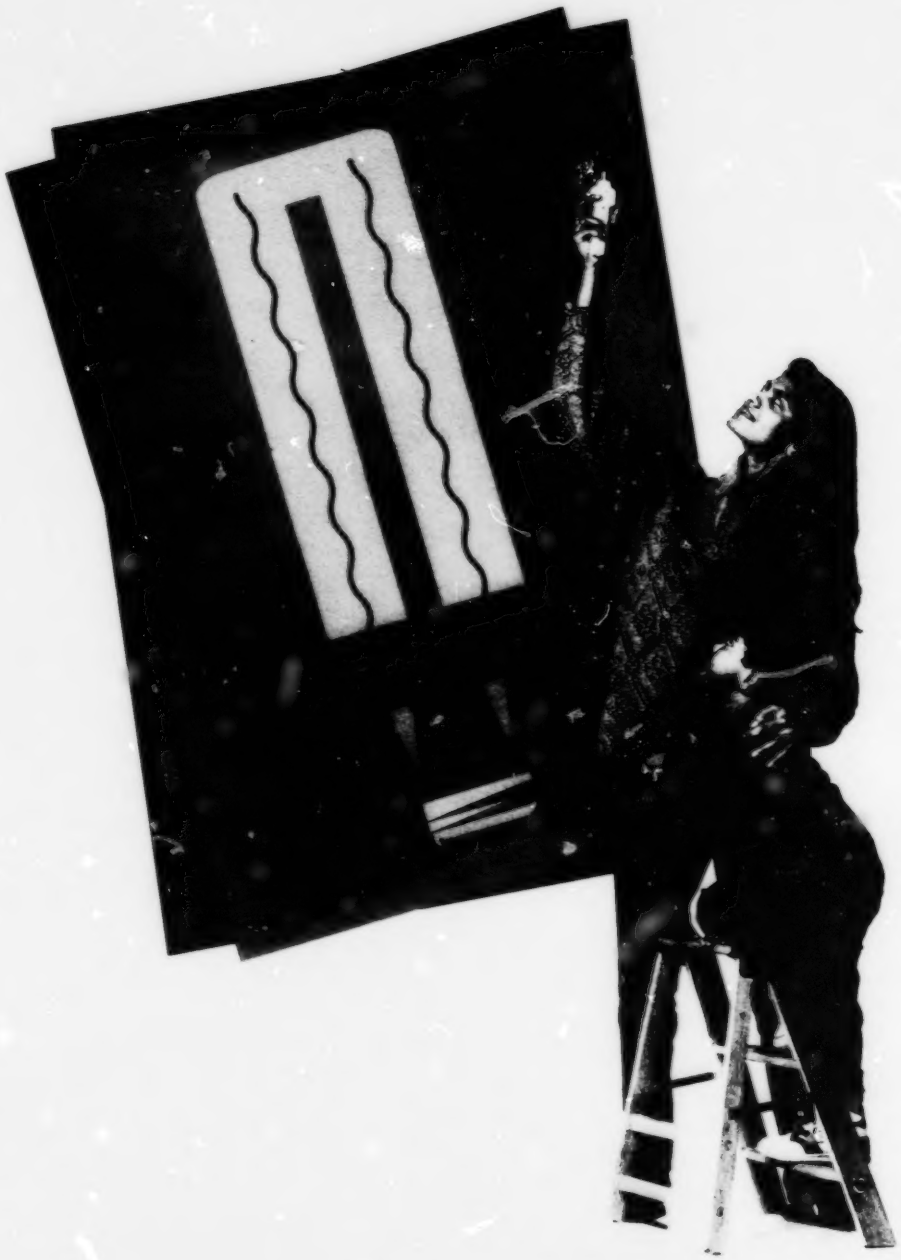
Ontario Hydro Annual Report 1990



Let's Give Tomorrow A Hand

91-04247/

To the Honourable Jenny Carter, Minister of Energy

On behalf of the Board of Directors, I am pleased to submit to you Ontario Hydro's report on the financial position of the corporation, with discussion and analysis of issues and initiatives for 1990 and beyond.

We thank you and your staff in the Ministry of Energy for the co-operation extended over the year.

R C Franklin

Robert C. Franklin
Chairman of the Board of Directors
April, 1991

CORPORATE PROFILE

ONTARIO HYDRO was created in 1906 by a special statute of the Province of Ontario. We are a financially self-sustaining corporation without share capital. Bonds and notes issued by the corporation are guaranteed by the Province.

Ontario Hydro serves the people of the province by supplying reasonably-priced and reliable electricity. We also help meet our customers' broader energy needs by providing comprehensive information about energy conservation. Ontario Hydro is developing innovative programs to better manage energy consumption, and offering financial incentives for greater energy efficiency.

Under the Power Corporation Act, it is our responsibility to generate, supply and deliver electricity throughout Ontario as well as to provide energy conservation programs. We also produce and sell steam and hot water as primary products. We work with and regulate municipal utilities. In co-operation with the Canadian Standards Association, we are responsible for the inspection and approval of electrical equipment and wiring throughout Ontario. We sell electricity to 314 municipal utilities, which then sell this power to customers in their service area. We also directly serve more than 100 large industrial customers and 915,027 small business, residential, and farm customers in rural and remote areas. Our total number of customers, direct and indirect, is 3.6 million.

Ontario Hydro operates 81 hydro-electric, fossil-fuelled, and nuclear generating stations and an extensive transmission and distribution system across the province.

The Corporation is governed by a Board of Directors. The Board can have up to 17 members, 16 of whom are appointed by the Lieutenant-Governor-in-Council of Ontario. The President and Chief Executive Officer, also a Board member, is a full-time employee of Ontario Hydro and appointed by the Board. In 1990, the position of Chairman of the Board was also filled by the President and Chief Executive Officer.

There are six committees of the Board: Finance, Audit, Management Resources, Social Responsibility, Technical Advisory, and Pension and Insurance Fund Investment.

Our head office is located at 700 University Avenue, Toronto. We also have six regional and 46 area offices across Ontario serving our customers.

FINANCIAL HIGHLIGHTS

	1990	1989
	millions of dollars	
Revenues	**6,484**	6,346
Net Income	**129**	699
Total Assets	**39,373**	36,277
Investment in Fixed Assets	**3,544**	3,095

ONTARIO HYDRO believes in energy conservation.

We believe that helping our customers save electricity is as much a part of our service as providing a reliable supply of electricity.

Quite simply, conserving electricity and using electricity more efficiently pays dividends to our customers in different ways.

Saving electricity reduces energy costs. It gives our customers greater control over their energy bills. Conservation also helps to protect the environment by reducing the need for new generating facilities.

To serve Ontario better, we want to do a better job of balancing the province's needs for electricity with its ability to use less. But we can't do it alone.

We need the help of people across Ontario. We need the participation of our customers – as partners – to use electricity more efficiently.

From the flick of a switch ... to the hum of an appliance ... we want people to be aware of the electricity they use in their homes. And we want to show them how using less power can still meet their needs.

In hospitals, schools, colleges and universities, stores, offices, and industries throughout Ontario, we're asking people to invest – along with us – in Ontario's energy future. We're developing new conservation programs with attractive financial incentives to meet specific customer needs. Creative and comprehensive ways of reducing energy use will help improve our housing, our workplaces, our communities, and our lifestyle.

Ontario Hydro has a plan of action: to save electricity; to ensure a reliable supply of electricity; to serve our customers.

We're asking Ontario to participate with us.

MESSAGE FROM ROBERT C. FRANKLIN, CHAIRMAN, PRESIDENT AND CHIEF EXECUTIVE OFFICER

LIKE UTILITIES throughout the world, Ontario Hydro is a company in transition. A transition marked by changing customer needs, new social demands, and global economic pressures.

Two decades ago, customers wanted Hydro to deliver reliable and reasonably-priced power. Ontario Hydro was hard-pressed to build enough generating supply.

Today, we're searching for new and innovative ways to meet electricity demand, to deliver increased energy savings, invest in greater environmental protection, and more actively pursue private sector generation.

Of course, these areas are not entirely new for Ontario Hydro. They have always been a part of our service to customers. But shifting public priorities are commanding new and much expanded efforts. And we are working hard to meet our customers' evolving needs.

In this changing climate, our task is to anticipate, not just respond. To be customer-oriented, as well as results-driven. In 1990 alone, we invested more than $100 million in our energy conservation and efficiency efforts. And results were achieved. Our customers saved about 200 megawatts of electricity through greater energy efficiency. That's equivalent to the power needs of Oshawa today.

By the end of the decade, Ontario Hydro will have spent at least $3 billion to help achieve energy savings of 4500 megawatts – more than enough electricity to meet the current requirements of a city the size of Metropolitan Toronto.

Our drive to reduce Ontario's demand for electricity is powered both by necessity, and conservation's role in customer service.

We need energy savings now to help ensure there is enough electricity to meet Ontario's needs in the future. We also believe energy conservation will help serve our customers by reducing their energy costs and protecting the environment.

The challenge of achieving greater conservation is enormous. The urgency and the commitment required is real. We want every business and every citizen across Ontario to participate.

How urgent? How real?

If electricity demand grows between 2.5 and 3 per cent every year for the next 25 years, Ontario will be consuming double the amount of power it uses today. Customer demand rose by about 3 per cent per year over the last 10 years.

And right now, Ontario's electricity system is aging. More than one-quarter of Hydro's generating facilities are expected to be retired by the year 2014.

We are committed to meeting our ambitious conservation targets. We are confident they can be met, provided that all of Ontario participates, sharing our commitment and challenge.

But energy conservation is not the only challenge Ontario Hydro is facing. As our general 1990 performance indicates, we experienced some disappointments.

Of most concern, our worker safety record fell significantly, and is simply unacceptable. We are now implementing comprehensive plans to keep our employees safer.

Also of great concern was our failure to meet our financial targets due to higher costs, the effect of the recession, and operational setbacks, particularly at our nuclear plants.

Our performance targets for our nuclear generating units were not achieved due to unplanned outages, in-service delays and extended downtime for maintenance.

Over the next year, Ontario Hydro will be taking aggressive steps to improve our overall performance.

Quality improvement programs will strengthen plant performance, streamline maintenance tasks, and decrease outages. In other parts of the corporation, continuous improvement programs will result in greater effectiveness and enhanced customer service. New productivity gains and ways to cut costs are being pursued to reduce pressure on electricity prices.

The challenges of the new decade will demand innovation, flexibility, and a sense of partnership with all those we serve.

They will also demand partnership among employees, whose efforts I would like to acknowledge in a year of difficulty. And whose continuing commitment will be essential in the years ahead.

Ontario Hydro is seeking energy savings. We are seeking corporate improvements. We are seeking to better serve our customers with reliable and affordable electricity.

Partnership

Ontario Hydro and the municipal electric utilities are encouraging customers to become partners in conservation.

FROM SHOWERS in our homes to heating and cooling in our schools, and from lighting in our offices to motors in industries – all of these can be made more energy efficient.

But it takes people to conserve energy: a lot of people, in every segment of the market.

From one end of this province to the other, it takes partnership among people. Investment from business. Support from government. Only through all our combined efforts, and by working together, will Ontario save enough electricity for a secure energy future.

There is a lot to do. Appliance standards and building codes can be improved. Energy efficiency regulations need to be clearly established and followed. Industry must see a payback sooner.

Ontario Hydro must – and will – do more. By offering a $3 billion program of information, energy audits, hands-on assistance, and financial incentives, we're helping Ontario save energy. And we're developing new and innovative energy efficiency programs flexible enough to meet individual energy needs while ensuring the broadest participation.

In 1990, we reached out to Ontario in many ways. In classrooms and community halls, at trade shows and business forums, we promoted energy conservation and efficiency. We encouraged everyone to contribute – because the benefits are real.

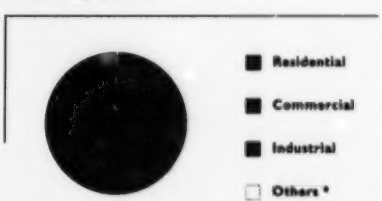
Energy efficient products and practices in homes will help control electricity use and energy bills.

Conserving electricity in business and industry will reduce energy costs and help Ontario achieve a competitive edge.

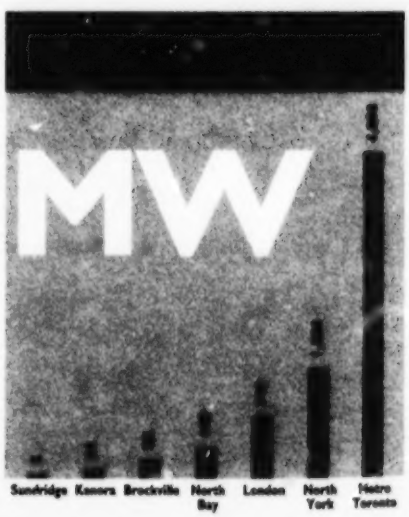
The power we save today will defer our need for new generating stations tomorrow, in turn lessening electricity's effect on the environment.

Across Ontario, we share electricity's values and benefits. As partners, we must also share the responsibility of greater energy efficiency.

Share by sector



* Agriculture, transportation



A megawatt *is one way to measure customer electricity demand at a point in time. In an average Ontario city, 1 megawatt could serve the electricity needs of about 300 people. This chart shows approximately how much electricity (in megawatts) selected towns and cities of Ontario would use on a cold winter day.*

Working with *manufacturers, distributors, and retailers, Ontario Hydro is helping to expand the number of energy efficient products available to customers.*

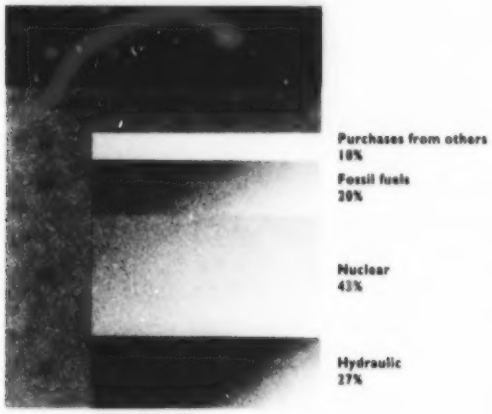
A co-operative effort *between Mayor Melba Barker and Ontario Hydro's Dave Whyte helped the town of Carleton Place (near Ottawa) cut its electricity bill by more than half after installing energy-efficient streetlights.*

Highlights of 1990

Recession Affects Demand

The 1990 slowdown in Ontario's manufacturing sector was reflected in the declining demand for electricity. For only the third time in our history, demand for power fell.

Ontario Hydro supplied a total of 136.7 million megawatt-hours in 1990, 2.9 per cent less than the 1989 electricity supply of 140.8 million megawatt-hours. The 1990 daily 20-minute peak demand of 22,311 megawatts, which occurred on February 26, was about 6 per cent lower than the December, 1989 all-time high peak demand of 23,630 megawatts.



Customers' electricity needs *were met through a diverse range of energy sources in 1990.*

Striving to Meet Customers' Needs

Ontario Hydro generates electricity using three main sources: uranium for nuclear power; coal and oil for fossil-fuelled generation; and falling water and rivers for hydraulic power.

In 1990, Hydro's nuclear stations did not meet performance expectations due to unplanned outages, in-service delays, and extended downtime for maintenance. Nonetheless, nuclear power still supplied 43.5 per cent of Ontario's electricity demand or 59.5 million megawatt-hours. Fossil-fuelled generation supplied 20.1 per cent of demand, or 27.5 million megawatt-hours, while hydraulic power supplied 26.8 per cent of Ontario's needs, or 36.6 million megawatt-hours.

Ontario Hydro also purchased power from other utilities outside the province to help meet Ontario's electricity needs and reduce its acid gas emissions.

Due to nuclear capacity shortfalls and tighter acid gas control regulations, purchases were at a record high during 1990, while sales of surplus power were nominal.

For the second year in a row, Ontario Hydro was a net importer of energy, buying 13.8 million megawatt-hours of electricity, primarily from U.S. utilities, and selling 600,000 megawatt-hours. The gross cost to Ontario Hydro customers was $477 million. Included in these purchases were 366,000 megawatt-hours of non-utility generation from private power sources in Ontario.

Health and Safety

Ontario Hydro's safety performance fell considerably in 1990, relative to its past performance and that of other utilities.

President and Chief Executive Officer Robert Franklin characterized the six on-the-job fatalities in 1990 as "simply unacceptable." These tragedies, coupled with worsening trends in the frequency and severity of occupational accidents, highlighted the need to implement fundamental changes in Hydro's approach to worker safety.

In response, all branches in 1990 resolved to eliminate the root causes of accidents and to support the company's new goal: "To Have Healthy Employees, Working Safely in an Accident-Free Workplace." To create a "safety partnership" with employees, joint labour-management health and safety committees were encouraged to go beyond their legal mandate to achieve a safe working environment.

A major aspect of this expanded role has been to provide all certified committee members with the authority to shut down any unsafe work operations throughout Ontario Hydro.

Also in 1990, Hydro developed a more extensive rehabilitation and re-employment policy improving the services to ill or injured employees returning to the workplace.

Helping customers *at home and in the workplace to better manage their electricity use is a part of Ontario Hydro's service.*

Customer Service

As part of its commitment to improve service to customers and encourage greater awareness and control of energy use, Hydro developed specifications for new three-phase, time-of-use meters in 1990.

These meters will be less expensive than those now used to monitor time-of-use rates for large customers and municipal utilities. Improved features of the new meter offer customers increased opportunity to manage their electricity bills. Work is also proceeding to develop specifications for a single-phase, time-of-use meter for Hydro's 900,000 small and mid-size customers.

Hydro also centralized its customer bill payments process, freeing local staff to provide better service. In addition, the Corporation decentralized its Customer Energy Service function to provide a stronger community presence for promoting energy conservation and efficiency.

Hydro Price Increase

In October, Hydro's Board of Directors approved an average electricity price increase of 8.6 per cent for 1991. The increase, which is higher than in recent years, was the result of strong cost pressures due to bringing new facilities into service, increased spending on environmental protection, up-front costs of conservation programs, and additional pension funding.

More than 70 communities *in Ontario provided feedback to our proposed 25-year plan for meeting future energy needs. Called "Providing the Balance of Power", the plan recommends a balanced mix of energy options.*

Continuous Improvement

Ontario Hydro launched continuous quality improvement initiatives in several areas of the corporation. The initiatives are designed to involve management, employees and their representatives in improving customer service and operating performance through greater work and team effectiveness.

Demand/Supply Plan

In late 1989, Ontario Hydro released its 25-year plan for meeting the province's future power needs.

Called "Providing The Balance Of Power", the plan proposes a mix of energy options: conservation; non-utility generation; new hydraulic, gas-fired, and nuclear supply; purchases from out of province; and rehabilitation of existing generating stations.

Following the release of the plan, Hydro launched an extensive public feedback program in January 1990, in preparation for the Ontario government's Environmental Assessment Board hearings, now scheduled to begin in April, 1991. The goal of the program was to inform the public of the proposed plan's key components, obtain comments, and report these back to senior management.

In the Home...

In 1990, Ontario Hydro launched several successful residential conservation programs.

INDIVIDUALLY, energy savings in the home may seem relatively small. Yet collectively – switching to energy efficient bulbs, using a cold water laundry rinse, or insulating an electric water heater – all bring important gains.

Important – because each kilowatt saved demonstrates that Ontarians are changing the way they think about electricity.

In spring, Hydro cash rebates encouraged consumers to purchase 130,000 energy efficient shower heads, resulting in savings of 3.4 megawatts. In September, Hydro and Canadian Tire launched a joint promotion of 30 energy-efficient products featuring discounts of 10 to 40 per cent. Sales exceeded 450,000 items for savings of more than 4 megawatts.

Last fall, Hydro offered a rebate for energy-efficient, compact fluorescent light bulbs, distributed by Loblaws. At the end of 1990, about 120,000 of the energy efficient light bulbs – about four times more than expected – had been sold, for total electricity savings of 1.7 megawatts.

Ontario's municipal electric utilities also played a key role in the 1990 residential conservation market.

Together, Ontario Hydro and a number of utilities offered free water heater tune-ups to 25,000 customers. The tune-ups saved about 1.5 megawatts.

Another Hydro program, launched in May, 1990, offered rebates of up to $2,000 for heat pumps in areas not served by natural gas. By year end, more than 3,000 units had been installed, saving about 10 megawatts.

The agricultural sector is also a key conservation target. In 1990, Ontario Hydro hosted a dozen energy efficient farm workshops, in addition to participating in several farm trade shows.

By year end, Hydro incentives for agricultural lighting or heat lamp conversions had resulted in energy savings of 3 megawatts.

Residential end-use shares

Cash rebates *from Hydro helped introduce homeowners to energy-saving products such as shower-heads and fluorescent bulbs.*

By installing timers *on lights and appliances, customers can increase their control over electricity use in their homes.*

Mrs. Ngan Ping Tsui *received a home energy audit from North York Hydro, pinpointing the many ways she can save energy in her home.*

Activities included Hydro information centres in more than 70 Ontario communities, with over 10,000 people visiting the centres; 1,400 presentations of the plan and distribution of material to interest groups, politicians, government agencies, the media, service clubs, community groups and business associations; and mass communications through two 1-800 lines, newspapers, radio and TV ads, displays, and billing inserts.

Bilingual information centres and French translation of the Demand/Supply documents were provided. The preparation of videos and written summaries in Cree, Ojibway and Oji-Cree by Aboriginal communities jointly with Ontario Hydro also began in 1990. Ontario Hydro is responsible for funding, writing and producing these materials.

Pre-engineering studies related to new nuclear capacity proposed in the Demand/Supply Plan were cancelled in November. In its Throne Speech, the Ontario government placed a moratorium on work towards new nuclear power stations in the province, although completion of the Darlington nuclear generating station was approved. The $240 million Hydro had earmarked for pre-engineering studies was redirected into new conservation initiatives.

The government affirmed that all electricity options, including nuclear, would be reviewed in the Demand/Supply Plan hearings before the Environmental Assessment Board.

In 1990, the Environmental Assessment Board awarded intervenor funding to 33 groups participating in the Demand/Supply Plan public hearings. Ontario Hydro will provide up to $23.2 million to intervenors to participate. About 200 intervenors are scheduled to appear.

Environmental Initiatives

Ontario Hydro expanded its commitment to environmental protection in 1990 with several new initiatives.

In May, Hydro signed a five-year reforestation agreement with the Ministry of Natural Resources. This agreement, initiated by Hydro, calls for the Corporation to fund seedling tree plantings equivalent to areas cut for new Hydro rights-of-way in northern Ontario. A similar program has been in place for many years in southern Ontario; in 1990, approximately 200,000 trees were planted by Ontario Hydro.

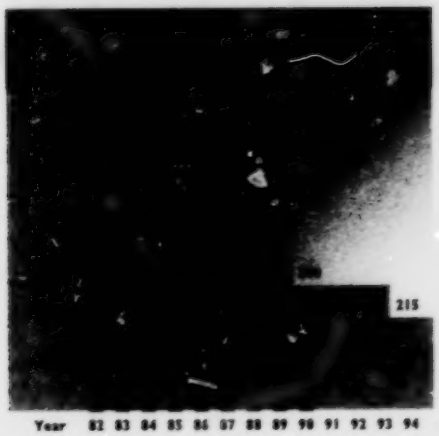
In late 1990, Hydro expanded its fine paper recycling program to include newspapers, glass bottles and beverage cans. Virtually all of Hydro's office employees participate in the corporate paper recycling program, recovering 2,000 tonnes of fine paper a year. At construction sites, Hydro also has recycling programs in place, involving scrap metal, wood, and corrugated cardboard.

Zebra mussels *are becoming a problem for Ontario Hydro at our Great Lakes and St. Lawrence River generating stations. Research to find ways of controlling the molluscs intensified in 1990.*

Hydro also took steps in 1990 to stop zebra mussels – small, rapidly reproducing molluscs – from clogging the service water piping of generating stations. New chlorination systems for treating service water were installed at hydraulic stations on the Niagara and St. Lawrence Rivers, and at all fossil-fired and nuclear power plants. Hydro is also engaged in extensive research on other methods to mitigate the zebra mussel threat.

Detailed engineering and excavation work was undertaken at Nanticoke generating station to convert the current wet fly ash disposal site to a dry storage system. The new system will provide greater environmental control of fly ash.

Work continued on two separate five-year environmental targets: one, to



1990 acid gas emissions *were less than half of 1982 emissions, and were well within the Ontario government regulation.*

reduce herbicide use by 35 per cent from Hydro's 1988 level; and the second, to decontaminate all accessible oil tainted with polychlorinated biphenyls (PCBs) in both storage and operating equipment. Pole-mounted transformers and other small equipment are being decontaminated over a 15-year period.

In 1990, the removal of all PCB-filled equipment in hydraulic facilities was completed. Oil containment equipment was also installed at several hydraulic stations as a precaution against oil spillage from transformers into waterways.

An environmental audit program was developed and initiated in 1990 for Ontario Hydro's 75 area and district offices. The audit program will ensure compliance with all government legislation, as well as corporate standards, and ensure that management systems now in place are effective.

A new department of Environmental Sciences was formed within Research Division to ensure environmental knowledge and technology needed by the Corporation is fully researched and developed.

In compliance with the Municipal/Industrial Strategy for Abatement (MISA) program, Hydro installed new effluent monitoring equipment at 22 of its generating stations.

In 1990, the Ontario government control regulation on acid gas tightened to an annual level of 280,000 tonnes from the previous level of 430,000 tonnes. Ontario Hydro significantly reduced acid gas emissions in 1990 to 245,000 tonnes from the 1989 level of 368,000 tonnes, both amounts falling below the government regulation.

To upgrade Hydro's acid gas emission measurement systems, Ontario Hydro received approval for new flue gas monitors at Lakeview, Nanticoke, and Lambton generating stations.

During 1990, Ontario Hydro participated in several national and provincial consultation workshops related to government initiatives on air pollution management and global warming.

Hydro also awarded several corporate donations in 1990 to environmental projects. Chief among them were contributions to the World Wildlife Fund for toxicology studies; the Harmony Foundation for its Centre For Environmental Learning; and Vision 2020, an environmental education program for high school students.

New Business Ventures

In 1990, Ontario Hydro's New Business Ventures Division reported revenues of $46.1 million, and net income of $4.8 million.

Major contract extensions were received for projects in Kenya, Egypt, and Hungary, while six Ontario Hydro-developed technologies were licenced to Canadian and U.S.-based manufacturers. In addition, a major joint venture initiative was established with Westinghouse to provide decontamination services to U.S. "light water" nuclear reactors.

New Business Ventures co-ordinated utility management training for 110 foreign trainees in 1990, and helped to attract a fourth customer for the Bruce Energy Centre, located adjacent to the Bruce Nuclear Power Development near Port Elgin.

Hydro employees *provided expertise, technical assistance, and training for energy projects to countries around the world in 1990.*

In Business...

Ontario Hydro information and incentives are helping business to invest wisely in energy efficiency.

FROM OFFICE towers, retail malls, restaurants and schools, to hospitals and courthouses, the diverse commercial market has immense potential for electricity savings.

Throughout 1990, business people learned more about conservation by participating in Hydro's Product Knowledge Days. These seminars focused on energy efficient developments in thermal cool storage, lighting and power quality.

Also in 1990, Hydro carried out more than 1,300 commercial and industrial Power Saver audits, identifying 79 megawatts of potential energy savings.

Provincial and federal governments are also participating in energy efficiency efforts. In December 1990, the Ontario Ministers of Energy and Government Services announced their commitment to audit provincial government buildings. A potential savings of more than 70 megawatts could be achieved each year over the next five years.

The federal government, encouraged by the results of a successful Hydro pilot program in the Ottawa area, has expanded its energy audits to include 1,300 buildings in 1991, with more to follow.

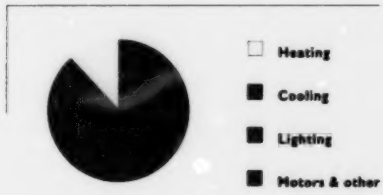
Another Hydro program, "Savings by Design", promotes energy efficient innovation in new commercial construction and retrofit projects. It yielded 3.5 megawatts of savings in 1990.

Over 900 business customers also changed their lighting systems – assisted by $2.5 million in Hydro incentives. At year end, another 800 business customers were in the process of converting, for total electricity savings of 34 megawatts.

The success of an earlier street-lighting conversion pilot program, co-funded by the Ontario government and endorsed by the municipal utilities, spurred Hydro to launch the program province-wide in 1990.

Over the next four years, Hydro will provide $30 million in street lighting incentives for expected energy savings of 43 megawatts.

Commercial* end-use shares



* *Apartments & Condominiums included.*

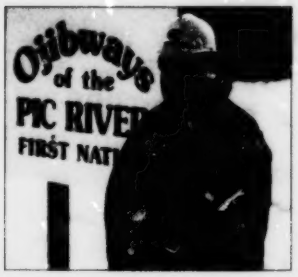
Designing buildings *to use less electricity is an investment that pays in reduced energy costs.*

The business sector *represents a large opportunity for energy savings. Hydro information about the latest conservation technology can help business track energy waste and implement energy efficient solutions.*

Bill Stephenson *of the Frontenac County Board of Education implemented energy management systems at 54 schools in 1990. Electricity use dropped by 12 per cent. Ontario Hydro is working with the Board to further improve energy efficiency.*

Aboriginal Relations

As part of its efforts to reach out to Aboriginal communities, Hydro developed Aboriginal Relations Guidelines in 1990. These guidelines commit Hydro to recognize the distinct legal, historical and cultural status of Aboriginal people.



To better understand *and accommodate concerns, Hydro is increasing consultation with Aboriginal communities.*

Hydro's Corporate Aboriginal Relations Steering Committee, composed of four vice-presidents, met with First Nations and Aboriginal political organizations in Blind River, Fort Frances, and Toronto during 1990. The Corporation also initiated orientation sessions on Aboriginal issues for Hydro staff.

Ontario Hydro provided opportunities for Aboriginal communities affected by Hydro generation and transmission proposals to become more directly involved. Hydro approached Aboriginal consulting firms in 1990 to provide the Aboriginal socio-economic component of the Environmental Assessments for a number of these proposals.

Remote Communities

Construction proceeded in 1990 on distribution and generation facilities to supply electricity to the remote northern communities of Kingfisher Lake and Wapekeka. A key component of the electrification project involves supplying surplus heat from diesel units to the school and gymnasium in those communities.

In-House Conservation

In keeping with its commitment to conservation, Hydro retrofitted several of its facilities in 1990 for greater energy efficiency. The projects included design changes to cut space heating and cooling costs, lighting conversions, reduction of hot water use, and increased efficiency of heating systems.

Guidelines have also been developed for both Hydro employees and the public to conserve energy used by computers, fax machines, photocopiers, and other office equipment.

Operational Review

Nuclear Generation

All eight units at Pickering nuclear generating station were shut down in May for a planned inspection of the vacuum containment building, which was found to be in satisfactory condition. The shutdown resulted in removing more than 4300 megawatts of power generation from the Hydro system. This outage was planned for a time when reduced demand and the availability of other generation ensured that no customer experienced a power interruption.

Work continued on the $485 million Large Scale Fuel Channel Replacement program at Pickering. Installation of new pressure tubes on Unit 3 was completed in December, with the unit expected to be back in service in the summer of 1991, at which time work will begin on Pickering Unit 4.

The first of four units at Darlington nuclear generating station – Unit 2 – was declared in-service on October 9, adding over 850 megawatts of electricity production to the Ontario Hydro system. Unit 1 produced first electricity on December 19, and will be placed in commercial service in spring, 1991.

Thermal Generation

Major rehabilitation programs are underway at Lakeview and Lambton thermal generating stations to extend their service lives.

At Lakeview, work began in February on Units 5 and 6, with rehabilitation of Units 1 and 2 planned to start in 1991. At the same time, flue gas conditioning equipment will be installed on the rehabilitated units to reduce acid gas emissions; fly-ash collection will also be improved.

At Lambton, rehabilitation will allow all four units to continue to supply power until the year 2010. The work is expected to be completed in 1995. In October, a contract was awarded for flue gas desulphurization units (scrubbers) for Units 3 and 4 at the station.

To facilitate the burning of low sulphur coal, which results in lower acid gas emissions, flue gas conditioning equipment was installed in 1990 at both Lambton and Nanticoke thermal generating stations. The need for a second pair of scrubbers for Lambton, and a first pair of scrubbers for Nanticoke, was also evaluated.

In addition, studies were initiated on the possible conversion of the Lennox oil-fired generating station so that it could also run on natural gas, to decrease acid gas emissions and provide operating flexibility.

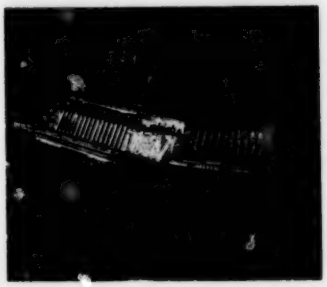
Hydraulic Generation

Progress was made on several hydraulic work programs to maintain and upgrade Hydro's water-powered generating stations for optimum output and reliability. In addition, a multi-year dam assessment and reconstruction program is underway to ensure the safe operation of older stations.

Site feasibility studies continued on the extension of Otter Rapids and Abitibi Canyon generating stations, as well as the proposed development of new stations at the Nine Mile and Blacksmith Rapids sites on the Abitibi River. The development of these sites could result in an additional 1072 megawatts of hydraulic generation. An Environmental Assessment for the Mattagami River extension project (involving about 400 megawatts of new generation) was submitted to the Ontario government in November.

The first phase of engineering definition work, involving further development of the Niagara River for an output of 921 megawatts, was completed in 1990. In December, the Ontario government approved Hydro's Environmental Assessment for the 10 megawatt redevelopment of the Big Chute Generating Station on the Severn River.

Ontario Hydro's plans for the development of the 132 megawatt Little Jackfish site in northern Ontario featured a unique participant funding pilot project. The President of Lakehead University in Thunder Bay was asked to distribute Hydro funds to enable local groups to: review the environmental assessment submitted to the Ministry of the Environment; study the Ontario government review of the environmental assessment; and provide comments to the government.



Water power *has been an essential, renewable resource for Ontario's electricity customers since the development of the Niagara River in the early decades of the century.*

Non-Utility Generation

Historically, Hydro has had about 1200 megawatts of non-utility generation either directly or indirectly connected to its electricity system.

In Industry...

Energy efficiency and conservation play a role in keeping Ontario industry competitive.

BY REDUCING energy waste, industry can contribute to a secure and reasonably priced supply of electricity in the future. An investment in energy efficiency will deliver reduced energy costs – without sacrificing reliability.

Focusing on energy security and savings, Hydro worked closely with industry in 1990. To encourage industries to invest in high efficiency motors, Ontario Hydro offered a program of financial incentives.

Since this program was launched in late 1989, high efficiency motors totalling more than 100,000 horsepower have been purchased by Ontario industries. In total, 3 megawatts of electricity savings have been achieved.

To shorten the payback period required to recoup an initial investment in new energy efficient technology, Hydro introduced an accelerated payback program. It offers financial incentives or loans for the purchase of approved energy efficient equipment for manufacturing plants.

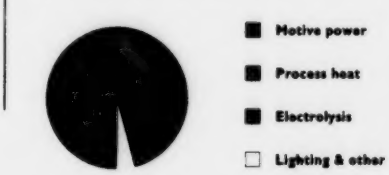
Ontario Hydro also provided funding in 1990 for energy consultants to undertake industrial audits specific to certain manufacturing operations. At year's end, 100 consultant studies were underway, with 60 megawatts of energy reduction opportunities identified.

In 1990, 12 projects – involving such technologies as adjustable speed drives, winter free-cooling systems, and water pumping and sewage treatment upgrades – were completed for 1.5 megawatts of savings. Another 70 projects were initiated representing 8 megawatts of savings.

Since an industrial lighting program was launched in late 1989, 120 industries have completed conversion projects, assisted by $1.2 million in Hydro incentives.

Another major area yielding energy savings for industry is time-of-use pricing, which offers lower electricity rates for off-peak power use. In 1990, more than 250 large customers and 160 municipal utilities, representing 80 per cent of Ontario's total demand for electricity, were billed under time-of-use pricing.

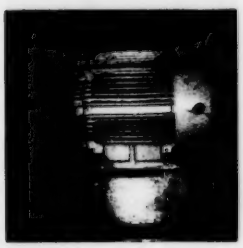
Industrial end-use shares



Hydro's information *and recommendations about energy conservation can help give industry a competitive edge in the new global climate.*

Industries converting to *more energy-efficient lighting systems can take advantage of Hydro's financial incentives.*

High-efficiency motors *offer industry the potential for large energy savings.*



John LeMay *of Inco in Sudbury took advantage of adjustable speed drives on motors, improved process efficiencies, and shifting demand to off-peak periods to improve efficiency of operations. Inco also plans to convert to energy-efficient lighting, with financial incentives from Hydro. The three-year project will save an estimated 3 megawatts of electricity.*

At the end of 1990, following two years of operation of Hydro's new Non-Utility Generation Division, an additional 296 megawatts of electricity was being supplied to Hydro's system or serving private producers' own needs.

Encouraging private power *generation, such as this 4 megawatt hydraulic project under construction at Cameron Falls in northeastern Ontario, is part of Hydro's plan to meet Ontario's energy needs.*

This total of almost 1500 megawatts of non-utility generation represents five per cent of Hydro's total capacity. As well, private power developers have committed to a further 316 megawatts of non-utility generation.

Ontario Hydro expects there will be more than 3300 megawatts of non-utility generation in place by the year 2000.

In 1990, following a Request for Proposals, Hydro selected 14 projects for negotiation, representing almost 2000 megawatts of capacity. This amount of non-utility generation is in addition to 27 projects, representing 1700 megawatts, which were already under negotiation prior to the solicitation process.

Much of Ontario's future non-utility generation is expected to come from cogeneration, an energy-efficient process which produces both electricity and heat, generally in the form of steam, from the same fuel source.

Transmission

Engineering and environmental studies work was launched in 1990 to prepare for Environmental Assessments for major transmission additions. Such projects included the northern Ontario transmission expansion plan, which would incorporate 1000 megawatts of power from Manitoba by the year 2000, and other transmission expansion plans between northern Ontario and Toronto, and eastern Ontario and southwestern Ontario.

Hydro also approved a plan to convert the aging and unreliable 25-Hertz (cycles per second) system in northeastern Ontario to 60 Hertz. Financial incentives will be provided to assist customers with the conversion of their load, and improve the efficiency of their equipment and processes.

Work on the southwestern Ontario Bulk Transmission Program reached a major milestone in 1990. The Longwood transformer station, near London, was energized from the new 500 kilovolt, double-circuit transmission line from the Bruce Nuclear Power Development. These new facilities, together with a new single circuit 500 kilovolt line from Longwood to the Nanticoke generating station, are scheduled for service in 1991. They will permit full delivery of the existing generation at the Bruce stations to serve Ontario electricity customers.

Capital funds were also released to upgrade existing transformer stations and transmission lines, and build new lines and stations to meet growing customer demand in key areas of the province. In addition, a program was approved to refurbish up to 400 kilometres of aging bulk transmission lines a year. This program will cost $800 million over the next 10 years.

Electric and Magnetic Fields

Ontario Hydro has initiated a comprehensive program to investigate possible health effects of electric and magnetic fields (EMF). During 1990, substantial progress was made in determining the EMF exposures of Ontario Hydro employees in the electrical trades. This information will be used in a joint occupational epidemiology study with Hydro-Québec and Electricité de France. Also, the methods for a complementary pediatric health study were

tested and finalized. Both of these studies are the most advanced of their type and are awaited nationally and internationally as important contributions to the understanding of EMF health effects.

Clarkson System Control Centre

To provide continued and improved reliability and operating efficiency, a new state-of-the-art control centre, located in Clarkson, west of Toronto, was placed in operation on December 14. The old Richview control centre, located near Toronto International Airport, will be used as a back-up, and for other monitoring and control purposes.

State-of-the-art *technology helps Hydro to better manage Ontario's complex and extensive electricity system at the new system control centre in Clarkson.*

Research Division

In 1990, Ontario Hydro's Research Division invented, developed, and tested a new type of fall protection device, primarily for Hydro equipment maintenance staff. No similar device is on the market, and some fall protection equipment manufacturers have requested distribution rights. Funding for the work was provided by Ontario Hydro and the Construction Safety Association of Ontario.

Other successful research projects carried out in 1990 included various conservation projects which will help save electricity in the areas of space and water heating, and industrial drying and cooling processes. As well, researchers identified those atmospheric conditions which cause transmission insulators to malfunction and they designed an alternative insulator. Finally, an advanced, computer-based monitoring system for primary heat transport pumps was developed for Darlington nuclear generating station.

Ontario Hydro is involved in a significant number of other joint research and development projects with universities, business and industry throughout the province.

Employees

Employee Relations

In March 1990, the Ontario Hydro Employees' Union voted 95.8 per cent in support of a strike, which was later averted with the assistance of the Ontario Ministry of Labour. The settlement involved improvements to pension benefits and wages, and a reduction in hours of work.

As well, Ontario Hydro negotiated a new agreement with the Society, a representative body for Hydro's professional and managerial staff.

Daycare centres *for the children of Hydro employees help staff balance family responsibilities with career demands.*

Employment Equity

In 1990, Ontario Hydro set corporate targets to achieve, by the year 2000, a work force which reflects the external community. Designated employment equity groups include women, visible minorities, Aboriginal people, and persons with disabilities. To guide managers in their responsibilities for employment equity, a corporate policy was developed and approved.

Also developed and approved in 1990 was a new internal Human Rights redress procedure. This procedure helps staff investigate complaints and recommend appropriate actions on behalf of employees who feel they have been discriminated against.

As part of its initiative to help employees balance their career and family responsibilities, Ontario Hydro made a commitment in 1990 to provide start-up funds for a Pickering-area daycare centre, in partnership with Durham College and the Ontario government. This brings to three the number of daycare centres Hydro has helped establish for employees.

In keeping with its outreach program to attract women to non-traditional careers, such as engineering, the Employment Equity Department made several presentations about sexism to engineering schools in 1990. The Senior Vice-President of Human Resources also took a strong stand against sexism and racism; in a letter-campaign to all Canadian universities, he indicated that future engineers would not be employed at Hydro unless they were prepared to work with and for women and men of all races.

The manager of the Employment Equity Department was recognized for her contribution to employment equity in 1990 when she was awarded the Citation for Citizenship from the federal Minister of State for Multiculturalism and Citizenship. Traditionally awarded to volunteers involved with multicultural projects, it was the first time the award has been made for outstanding achievement within a corporation.

Corporate Awards

Ontario Hydro presented eight New Technology Awards in 1990 for outstanding technical achievements to employees working in the engineering and applied sciences field. Cost savings to Hydro customers arising from these accomplishments exceeded $180 million.

In 1990, Ontario Hydro also received more than 3,000 suggestions from employees as part of the corporate suggestion program. Over 80 per cent of their ideas were accepted. Eight silver awards were presented to employees whose suggestions provided more than $1.5 million in cost savings for Hydro customers. Another 2,660 bronze awards were also earned by employees for ideas which improve on-the-job efficiency, safety, customer service and environmental protection.

United Way contributions
by Hydro employees across Ontario increased significantly during 1990.

United Way

Ontario Hydro employees across the province contributed $1,054,000 to the 1990 United Way Campaign, exceeding the target of $900,000, and representing an increase of 23 per cent over 1989 givings.

Financial Highlights

In 1990, Ontario Hydro's total revenues were $6,484 million, an increase of $138 million over 1989. This higher revenue resulted from an average 5.9 per cent increase in the price of electricity, partially offset by a decrease in the volume of electricity sales.

The reduction in the volume of electricity sales reflected the downturn in the Ontario economy and relatively milder winter weather in 1990. It was the first year-over-year decrease in the volume of electricity sales since the recession of 1982.

Total operating costs for 1990, including financing charges, amounted to $6,355 million, a $708 million increase over 1989. The rise in expenditures was due primarily to two factors: higher operation, maintenance and administration costs, and a substantial increase in power purchases.

The higher operation, maintenance and administration costs reflect the inflationary effects on labour and other costs, higher program costs for maintenance and restoration activities, and increased pension costs. The substantial increase in power purchases was necessary to comply with Ontario's acid gas regulation (resulting in a decrease in the use of Hydro's coal-fired generating stations), and to meet power system requirements.

Net income for 1990 was $129 million, compared with $699 million for 1989.

Capital expenditures for investment in fixed assets during 1990 amounted to $3,544 million, a $449 million increase over 1989, reflecting continuing construction on the remaining three nuclear units at Darlington generating station, and upgrades to transmission and distribution facilities.

Cash provided from operations and available for investment in fixed assets decreased to $754 million in 1990 from $1,705 million in 1989, due to lower net income and the effect of higher non-cash working capital balances.

Results Of Operations

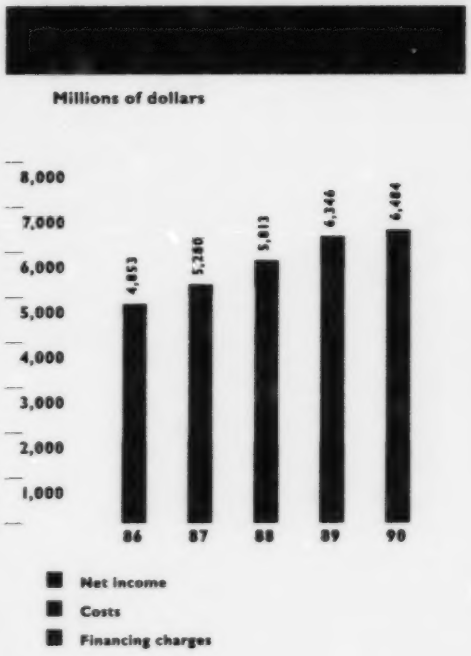
Revenues

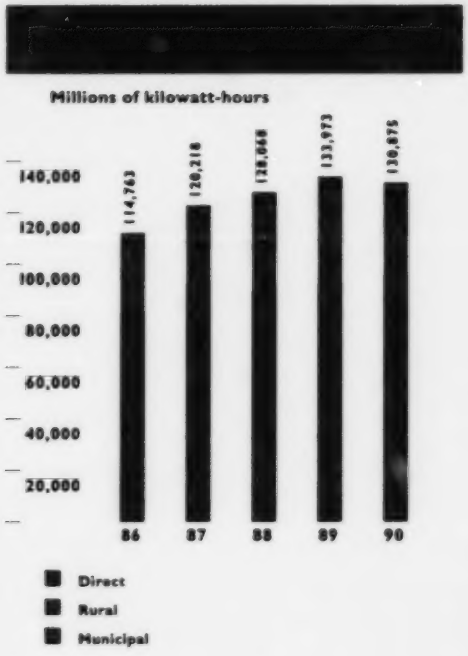
Primary revenues for 1990 amounted to $6,462 million, a 3.3 per cent increase representing $207 million over 1989.

Electricity sales to municipal utilities, rural retail customers, and direct industrial customers totalled 130,875 million kilowatt-hours. Ontario's economic downturn, strikes in the industrial sector, and milder winter weather in 1990 caused the volume of primary energy to fall 2.3 per cent compared to 1989.

The average 1990 electricity price increase was 5.9 per cent. Municipal utilities paid an average of 6.1 per cent more for their electricity in 1990, while rural retail prices increased by an average of 5.3 per cent, and direct industrial prices rose by an average of 5.6 per cent.

The rural price takes into account $100 million in assistance provided by all Ontario electricity consumers to reduce the electricity bills of year-round rural residential customers.





Secondary revenues for 1990, mainly from exporting electricity to utilities in the United States, came to $22 million. Compared with 1989, this represents a decrease of $69 million, or 75.8 per cent. This decrease is mainly attributable to curtailing export sales, which mostly come from coal-generated electricity, to ensure Ontario Hydro's acid gas emissions were below the 1990 limit specified by the provincial government regulation.

Major Power Production Sources

Ontario's electricity needs are met by a number of different sources.

Water-powered generating stations, which are relatively inexpensive to operate, have traditionally provided a significant amount of the electricity used by Ontario Hydro customers.

The total capacity of hydraulic facilities has, in fact, risen since the 1960s, but as Ontario's electricity needs grow, water power is providing a declining proportion of the system's total production. Most of Ontario's remaining water resources are not suitable for large, economic energy development. While new and smaller hydraulic developments are planned, their contribution will be limited by economics and site characteristics.

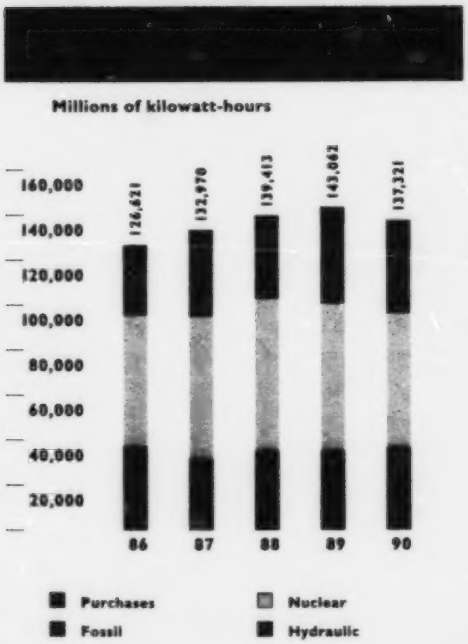
To meet Ontario's growing energy demand, Ontario Hydro has built nuclear generating stations which use natural uranium. Nuclear stations reduce Hydro's need to operate coal-fired stations, which have higher fuel costs and produce acid gas emissions. Nonetheless, coal-fired generation plays a significant role in Ontario Hydro's power system in periods of high demand for electricity.

Ontario Hydro also purchases electricity, when needed, from neighbouring utilities, mainly in the United States and Manitoba. As well, Ontario Hydro has signed a firm, 22-year contract with Manitoba Hydro to buy up to 1,000 megawatts of power per year starting in the year 2000.

Historically, about 1,200 megawatts of non-utility generation, representing about 4 per cent of the Corporation's capacity, has been directly or indirectly connected to the Ontario Hydro system. Greater emphasis is now being placed on non-utility generation from private power developers to further balance Ontario's energy sources. As part of Ontario Hydro's demand/supply planning strategy, the Corporation is encouraging further development of non-utility generation. In 1989, Ontario Hydro issued its first request for proposals soliciting non-utility generation projects. The aim is to increase new non-utility generation to 2,100 megawatts by the year 2000. As of year-end, new non-utility generation projects totalling 295 megawatts were in operation, and developers of another 15 facilities totalling 316 megawatts of power are committed to construction of new energy projects.

In 1990, nuclear stations supplied 43.3 per cent of total system energy (including energy production for secondary sales), while hydraulic stations supplied 26.7 per cent, and fossil-fuelled generation provided 20.0 per cent. Purchased power – including non-utility generation in Ontario – provided the remaining 10.0 per cent. In 1989, nuclear, hydraulic and fossil-fuelled generation supplied 45.6 per cent, 24.7 per cent, and 24.5 per cent of total system energy, while purchases supplied 5.2 per cent.

A breakdown of the annual average cost per kilowatt-hour of energy from major generating sources is shown in the Five-Year Summary of Financial and Operating Statistics (see page 49).



Total Operating Costs

Ontario Hydro's total operating costs for 1990 were $6,355 million, $708 million or 12.5 per cent higher than in 1989. The chart shows major operating costs for the period 1986 through 1990.

Operation, Maintenance and Administration

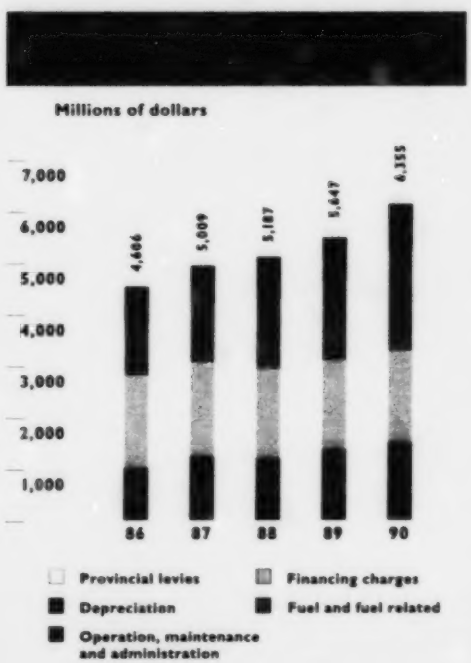
In 1990, operation, maintenance and administration costs amounted to $1,927 million, an increase of $393 million over 1989. This increase of 25.6 per cent was due primarily to inflationary effects on labour and other costs, higher program costs for maintenance and restoration activities, and increased pension costs. In 1990 approximately $94 million was spent on energy conservation programs, a $32 million increase over 1989.

Fuel and Fuel Related Costs

In 1990, fuel and the related costs of power purchases and the Nuclear Agreement - Payback, were 9.8 per cent higher than in 1989.

The 1990 fuel costs for coal, uranium, oil and water rental payments other than to the Province of Ontario came to $1,035 million, $97 million lower than in 1989. The decrease reflects lower nuclear generation and fossil-fuelled generation, requiring higher and more costly power purchases.

In 1990, Ontario Hydro purchased $477 million worth of electricity from neighbouring utilities, an increase of $247 million from 1989, making it a net importer of electricity, a trend which started in 1989. Ontario Hydro buys electricity when it is economical to do so and during periods of peak demand or in emergencies. Purchases are also used to manage acid gas emission levels. The provincial regulatory limit on acid gas emissions was reduced in 1990 to 280,000 tonnes from 430,000 tonnes in 1989. Ontario Hydro's acid gas emissions are estimated at 245,000 tonnes for the year.



Provincial Government Levies

Provincial government levies are payments made to the Province of Ontario with respect to the debt guarantee fee and water rentals.

In 1989, the Ontario government legislated that Ontario Hydro is required to pay to the Province an annual debt guarantee fee of one half of one per cent on the total outstanding debt guaranteed by the Province as of the preceding December 31. The fee for 1990 is $133 million, $51 million greater than 1989. The 1989 fee reflected the fact that the charge came into effect in May of that year.

Provincial water rental payments, for the use of provincial waters by Ontario Hydro in its hydraulic stations, amounted to $102 million in 1990, an increase of $7 million over 1989. The increased payments reflect the impact of higher water rental rates and increased hydraulic generation in 1990 over 1989.

In addition to provincial government levies, Ontario Hydro also made, similar to other businesses, payments to various government agencies of approximately $298 million in 1990. This amount includes payments in lieu of taxes to municipalities, provincial and federal sales taxes, Unemployment Insurance Commission premiums, Canada Pension Plan contributions and Employer Health Tax payments.

Depreciation

Depreciation charged to operations totalled $908 million in 1990, $63 million or 7.5 per cent higher than in 1989. The increase reflects the depreciation costs for new generating, transmission and distribution facilities, partially offset by changes in estimates related to fixed asset removal costs.

Financing Charges

Financing charges comprise interest charged to operations and foreign exchange costs. Interest charged to operations represents gross interest reduced by capitalized interest and interest earned on investments. By capitalizing interest, costs are properly allocated between current and future customers. Foreign exchange mainly represents the amortization of gains or losses on the principal amount of foreign debt.

Gross interest costs for 1990 amounted to $3,204 million, an increase of $188 million or 6.2 per cent over 1989. This increase was primarily related to additional funds borrowed during the year to finance construction of Darlington nuclear generating station. The increase was partially offset by: the effect of the stronger Canadian dollar relative to the United States dollar on foreign currency interest payments; and the refinancing of debt that matured at lower interest rates.

Interest charged to operations amounted to $1,803 million in 1990, $106 million or 6.2 per cent higher than in 1989. The increase was primarily due to interest on debt related to Darlington Unit 2 which was declared in-service in October 1990. This increase was partially offset by cash provided from operations used to reduce debt related to operating assets.

Foreign exchange provided a net gain of $15 million in 1990, primarily as a result of lower hedging costs, compared to a net cost of $31 million in 1989.

Net Income

The Power Corporation Act requires Ontario Hydro to include in electricity prices, in addition to recovery of operating costs, a net income provision comprising an appropriation for debt retirement and a provision for the stabilization of rates and contingencies. Ontario Hydro's policy is to develop net income requirements by examining the size and pattern of price increases, the availability of capital and financial performance. Ontario Hydro's net income was $129 million in 1990, compared to $699 million in 1989.

Financial Indicators

Ontario Hydro is a financially self-sustaining Corporation. The Corporation's main financial indicators are its cash flow coverage, interest coverage and debt ratios. Together, these financial indicators are used to monitor the financial performance of the Corporation. As a result of lower net income, the 1990 financial indicators were less favourable compared to the previous year.

Cash Flow Coverage

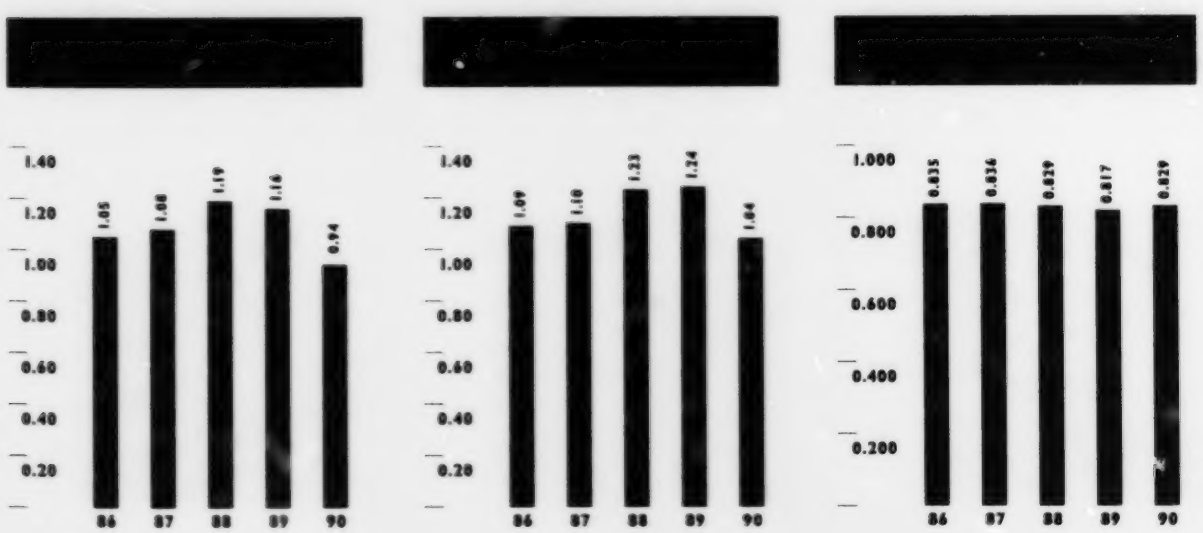
The cash flow coverage ratio measures the extent to which Ontario Hydro's operations provide cash to meet gross interest payments. The cash flow coverage ratio for 1990 was 0.94 reflecting the impact of a low net income and a high level of borrowing related to construction activities. The cash flow coverage ratio for 1989 was 1.16.

Interest Coverage

The level of interest coverage measures the extent to which net income contributes toward the ability of Ontario Hydro to meet its gross interest payments. The level of interest coverage for 1990 was 1.04 compared to 1.24 for 1989.

Debt Ratio

The debt ratio measures the extent to which Ontario Hydro's assets are financed by debt. A reduction in the debt ratio indicates a strengthening of financial position, as the increase in equity provides additional financial flexibility. The debt ratio at the end of 1990 was .829 compared to the 1989 ratio of .817.



Capital Expenditures And Financing

Investment in Fixed Assets

Ontario Hydro invests in fixed assets to meet expected growth in the demand for electricity, to replace existing assets with facilities that are more economical, and to meet regulatory requirements. The total assets of the Corporation at the end of 1990 were $39,373 million, 89.2 per cent consisting of fixed assets in service or under construction. This relatively high percentage reflects the capital intensive nature of Ontario Hydro's business.

The investment in fixed assets during 1990 totalled $3,544 million. Of this amount, $1,186 million was spent on construction at the Darlington nuclear generating station. Darlington Unit 2 was placed in service in October 1990 and the remaining three units are expected to be placed in-service by 1993. In addition, the 1990 expenditures reflect continued emphasis on investment in transmission and distribution facilities to maintain a high level of service and reliability. During 1990, $865 million was spent on constructing major transmission and distribution facilities, such as the 500 kilovolt transmission lines in southwestern Ontario. In addition, $314 million was spent on rehabilitation of Lambton and Lakeview generating stations. The level of investment in fixed assets for 1990 was somewhat higher than the average of the previous four years. The increase reflects a higher level of investment in the transmission and distribution facilities and rehabilitation work.

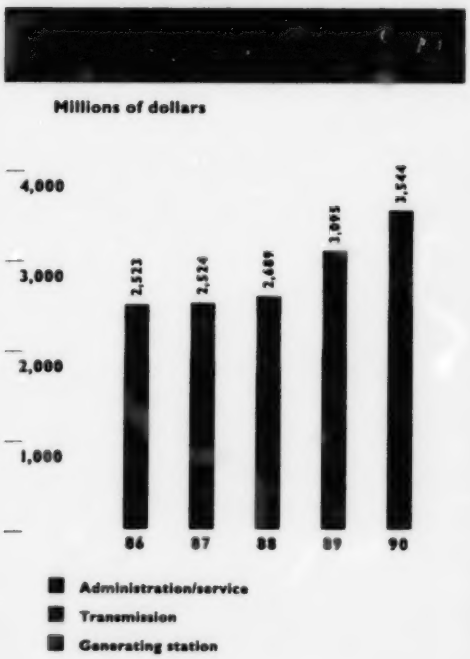
Financing and Capital Markets

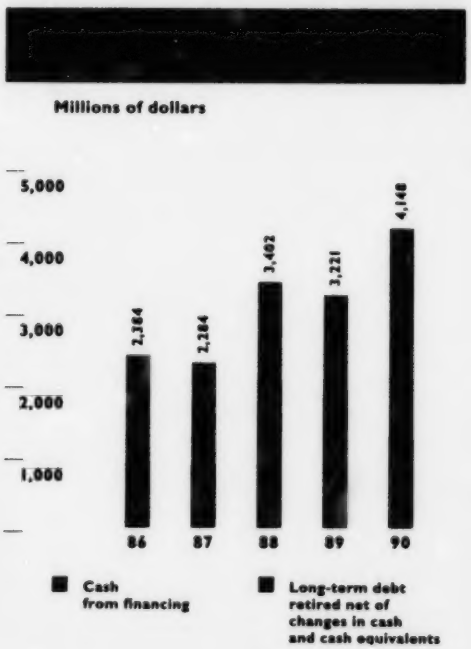
The cash required by Ontario Hydro to finance its investment in fixed assets comes from two major sources: operations and external borrowing. For 1990, operations provided $754 million and net borrowing provided $2,889 million. The cash provided from operations was down $951 million from 1989 reflecting lower net income and the effect of higher non-cash working capital balances. The cash provided from financing consists of cash from issuing long-term debt; and the change in cash and cash equivalents, less the amount of cash used to retire long-term debt.

Proceeds from bonds sold by Ontario Hydro during 1990 amounted to $4,148 million. In total, there were 12 Canadian issues and one United States issue, with an average annual coupon interest rate of 11.6 per cent for an average term to maturity of 13.2 years.

Cash amounting to $1,633 million was used to retire maturing long-term debt in 1990, compared with $1,656 million in 1989. No debt was redeemed prior to maturity in 1990, compared with $403 million in 1989. Cash provided from financing was significantly higher in 1990 as compared to historical levels. This reflects the financing needs of a higher level of construction activities and a lower level of cash provided from operations.

In December 1990, Ontario Hydro offered a global bond issue of $1,250 million, for simultaneous distribution in Canada, Europe, Asia and the United States in early 1991. The issue was the first global Canadian dollar issue and the largest Canadian international bond issue.





Management's Responsibility For Financial Reporting

The accompanying financial statements of Ontario Hydro are the responsibility of management and have been prepared in accordance with accounting principles generally accepted in Canada, applied on a basis consistent with that of the preceding year. The significant accounting policies followed by Ontario Hydro are described in the Summary of Significant Accounting Policies. The preparation of financial statements necessarily involves the use of estimates based on management's judgement, particularly when transactions affecting the current accounting period cannot be finalized with certainty until future periods. The financial statements have been properly prepared within reasonable limits of materiality and in light of information available up to March 11, 1991. The information presented elsewhere in the Annual Report is consistent with that in the financial statements.

Management maintains a system of internal controls designed to provide reasonable assurance that the assets are safeguarded and that reliable financial information is available on a timely basis. The system includes formal policies and procedures and an organizational structure that provides for appropriate delegation of authority and segregation of responsibilities. An internal audit function independently evaluates the effectiveness of these internal controls on an ongoing basis and reports its findings to management and the Audit Committee of the Board of Directors.

The financial statements have been examined by Ernst & Young, independent external auditors appointed by the Lieutenant Governor in Council of Ontario. The external auditors' responsibility is to express their opinion on whether the financial statements are fairly presented in accordance with generally accepted accounting principles. The Auditors' Report, which appears below, outlines the scope of their examination and their opinion.

The Board of Directors, through the Audit Committee, is responsible for ensuring that management fulfils its responsibilities for financial reporting and internal controls. The Audit Committee meets periodically with management, the internal auditors and the external auditors to satisfy itself that each group has properly discharged its respective responsibility, and to review the financial statements before recommending approval by the Board of Directors. The external auditors have direct and full access to the Audit Committee, with and without the presence of management, to discuss their audit and their findings as to the integrity of Ontario Hydro's financial reporting and the effectiveness of the system of internal controls.

On behalf of Management

Chairman, President
and Chief Executive Officer

Senior Vice-President
Finance and Services

Toronto, Canada,
March 11, 1991

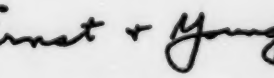
Auditors' Report

To the Board of Directors of Ontario Hydro:

We have audited the statement of financial position of Ontario Hydro as at December 31, 1990 and the statements of operations, accumulated debt retirement appropriations, reserve for stabilization of rates and contingencies and source of cash used for investment in fixed assets for the year then ended. These financial statements are the responsibility of Ontario Hydro's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of Ontario Hydro as at December 31, 1990 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles.



Toronto, Canada,
March 11, 1991

Chartered Accountants

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in Canada, applied on a basis consistent with that of the preceding year. The significant accounting policies followed by Ontario Hydro are described below.

Rate setting

Ontario Hydro has broad powers to generate, supply and deliver electric power throughout the Province of Ontario. The Corporation operates under the Power Corporation Act and is subject to provisions of the Ontario Energy Board Act.

Under the provisions of the Power Corporation Act, the price payable by municipal corporations is the cost of operating and maintaining the system, depreciation, interest, and the amounts appropriated for debt retirement and stabilization of rates and contingencies. The debt retirement appropriation is the amount required under the Act to accumulate on a sinking fund basis over 40 years a sum equal to the debt incurred for the cost of the fixed assets in service. The appropriation for, or withdrawal from, the stabilization of rates and contingencies reserve is an amount established to maintain a sound financial position and to stabilize the effect of cost fluctuations.

Under the provisions of the Ontario Energy Board Act, a public hearing before the Ontario Energy Board is required to review any changes in electricity rates proposed by Ontario Hydro which affect its municipal utilities, direct industrial customers, or, if the Minister of Energy so directs, rural retail customers. The Ontario Energy Board then submits its recommendations to the Minister of Energy. After considering the recommendations of the Ontario Energy Board, Ontario Hydro's Board of Directors, under the authority of the Power Corporation Act, establishes the electricity rates to be charged to customers.

If the Board of Directors specifies an amount related to a certain transaction be included in future electricity rates that, in accordance with the accounting policies summarized below, would be charged or credited to operations in the current year, then this amount is deferred and amortized to future operations on a basis consistent with its inclusion in rates.

Fixed assets

Fixed assets in service include operating facilities and non-operating reserve facilities. Construction in progress includes fixed assets under construction and heavy water held for use in nuclear generating stations under construction.

Fixed assets are capitalized at cost which comprises: material; labour; engineering costs; overheads; depreciation on service equipment; interest applicable to capital construction activities; and for new facilities, the costs of training initial operating staff. In the case of generating facilities, the cost also includes the net cost of commissioning which comprises the cost of start-up less the value attributed to energy produced by generation facilities during their commissioning periods. For multi-unit facilities, a proportionate share of the cost of common facilities is placed in-service with each major operating unit. The cost of heavy water comprises the direct cost of production and applicable overheads, as well as interest and depreciation on the heavy water production facilities and the estimated removal costs of these facilities. Leases which transfer the benefits and risks of ownership of assets to Ontario Hydro are capitalized.

Interest is capitalized on construction in progress at rates (1990 - 10.8 per cent, 1989 - 10.8 per cent) which approximate the average cost of long-term funds borrowed in the years in which expenditures have been made for fixed assets under construction. If the construction period of a project is extended and the construction activities are continued, interest is capitalized during the period of extension provided that the project has a reasonable expectation of being completed.

If a project is cancelled or deferred indefinitely with a low probability of resuming construction, all costs including the costs of cancellation are written off to operations.

If fixed assets are removed from operations and mothballed for future use, termed non-operating reserve facilities, the costs of mothballing are charged to operations.

Depreciation

The capital costs of fixed assets in service are depreciated on a straight-line basis. Depreciation rates for the various classes of assets are based on their estimated service lives. Major components of generating stations are depreciated over either the lesser of the service life expectancy of the component or the remaining service life of the associated generating station.

The estimated service lives of assets in the major classes are:

Generating stations	
- hydraulic	- 65 to 100 years
- fossil	- 40 years
- nuclear	- 40 years
Heavy water	- over the period ending in the year 2040
Transmission and distribution facilities	- 20 to 55 years
Heavy water production facilities	- 20 years
Administration and service facilities	- 5 to 65 years

In accordance with group depreciation practices, for normal retirements the cost of fixed assets retired is charged to accumulated depreciation with no gain or loss reflected in operations. However, gains and losses on sales of fixed assets and losses on premature retirements, are charged to operations in the year incurred as adjustments to depreciation expense.

When the costs of removal less residual value, termed removal costs, on retirements of fixed assets can reasonably be estimated and are significant, provisions for these costs, except for those related to heavy water production facilities, are charged to depreciation expense on an annuity basis over the remaining service life of the related fixed assets. For heavy water production facilities, provisions for removal costs are charged to heavy water production costs on a straight-line basis over the remaining service life of the related facilities. Other removal costs are charged to depreciation expense as incurred. Removal costs include the estimated costs of decommissioning nuclear and fossil stations and heavy water production facilities, and the estimated costs of removing certain nuclear reactor fuel channels.

The estimated service lives of fixed assets and the significant assumptions underlying the estimates of fixed asset removal costs are subject to periodic review. Any changes arising out of such a review are implemented on a remaining service life basis from the year the changes can first be reflected in electricity prices.

Non-operating reserve facilities are amortized so that any estimated loss in value is charged to depreciation expense on a straight-line basis over their expected non-operating period.

Unamortized advances for fuel supplies

As part of its program to ensure the adequate supply of fuels for its generating stations, Ontario Hydro has entered into long-term fuel supply contracts. Where these contracts require Ontario Hydro to make payments for pre-production costs to suppliers in advance of the fuel delivery, these payments and associated costs, including interest, are carried in the accounts as unamortized advances for fuel supplies. The advances are amortized to fuel inventory as the fuels are delivered.

Fuel for electric generation

Fuel used for electric generation comprises the average inventory costs of fuel consumed, charges for commissioning energy produced, and provisions for disposal of nuclear fuel irradiated during the period. The inventory cost of fuel consumed comprises fuel purchases, transportation and handling costs, and the amortization of advances for fuel supplies. Transportation costs include charges for interest and depreciation on railway equipment owned by Ontario Hydro. The charges for commissioning energy produced during the period represent the incremental operating and fuel costs of producing the same quantity of energy at generating units displaced because of the commissioning activity. The costs for disposal of nuclear fuel irradiated in each period are charged to operations based on estimated future expenditures and interest accumulating to the estimated date of disposal. Estimates of expenditures, interest and escalation rates, and the date of disposal are subject to periodic review. Adjustments resulting from changes in estimates are charged to operations on an annuity basis over the period from the year the changes can first be reflected in electricity prices to the estimated in-service date of the disposal facility.

Foreign currency translation

Current monetary assets and liabilities in foreign currencies are translated to Canadian currency at year-end rates of exchange and the resultant exchange gains or losses are credited or charged to operations. Long-term debt payable in foreign currencies is translated to Canadian currency at year-end rates of exchange. Resulting unrealized exchange gains or losses are deferred and included in unamortized debt costs, and are amortized to operations on an annuity basis over the remaining life of the related debt.

Foreign exchange gains or losses on hedges of long-term debt payable in foreign currencies are deferred and included in unamortized debt costs. The deferred gains or losses related to principal payments are amortized to operations on an annuity basis over the remaining period to the year in which the hedged principal payments are due. The deferred gains or losses related to interest payments are credited or charged to operations in the year in which the hedged interest payments are due.

Foreign exchange gains or losses on early redemption of long-term debt are deferred and included in unamortized debt costs if the exposure in the foreign currency related to the redeemed debt is not reduced as a result of the refinancing of the redeemed debt in the same currency. These deferred gains or losses are amortized on an annuity basis over the period to the original maturity date of the redeemed debt. If the foreign currency exposure is reduced as a result of the early redemption of debt, the resulting foreign exchange gains or losses related to the redeemed debt are credited or charged to operations.

Unamortized debt costs

Unamortized debt costs include the unamortized amounts related to unrealized foreign exchange gains or losses resulting from the translation of foreign currency long-term debt; foreign exchange gains or losses on hedges; foreign exchange gains or losses on the early redemption of long-term debt; discounts or premiums arising from the issuance of debt or the acquisition of debt prior to maturity; and discounts or premiums accrued on foreign currency hedges.

Debt discounts or premiums arising from the issuance of debt are amortized over the period to maturity of the debt. Discounts or premiums on debt acquired prior to the date of maturity are amortized over the period from the acquisition date to the original maturity date of the debt. Discounts or premiums on foreign currency hedges are credited or charged to operations over the terms of the individual hedges.

Nuclear agreement - payback

Ontario Hydro, Atomic Energy of Canada Limited and the Province of Ontario are parties to a joint undertaking for the construction and operation of Units 1 and 2 of Pickering nuclear generating station, with ownership of these units being vested in Ontario Hydro. Contributions to the capital cost by Atomic Energy of Canada Limited and the Province of Ontario amounted to $258 million and these have been deducted in arriving at the value of fixed assets in service in respect of Pickering Units 1 and 2. Ontario Hydro is required to make monthly payments, termed "payback", until the year 2003 to each of the parties in proportion to their capital contributions. Payback, in a broad sense, represents the net operational advantage of having the power generated by Pickering Units 1 and 2, compared with power generated by coal-fired units similar to Lambton Units 1 and 2.

During the 1983 through 1988 shutdown period for replacement of pressure tubes in Pickering Units 1 and 2, the payback calculations resulted in negative payback amounts. These amounts have been credited against the cost of operations over the shutdown period and the accumulated amounts, plus interest, are included in the accounts as long-term accounts receivable. The accumulated negative payback amounts, plus interest, are to be offset against future positive payback amounts payable over the remaining term of the Agreement to Atomic Energy of Canada Limited and to the Province of Ontario, commencing with the return to operation of the last of the two units in November 1988.

Pension plan

The pension plan is a contributory, defined benefit plan covering all regular employees of Ontario Hydro. Pension costs for accounting purposes are actuarially determined based on the assumptions that reflect management's best estimate of the effect of future events on the actuarial present value of accrued pension benefits, and the valuation of pension plan assets using a five-year market value average. Pension plan surpluses and deficiencies are amortized on an annuity basis over the expected average remaining period of service of the employees covered by Ontario Hydro's pension plan.

Research and development

Research and development costs are charged to operations in the year incurred, except for those related directly to the design or construction of a specific capital facility which are capitalized as part of the facility.

for the year ended December 31, 1990	**1990**	1989
		millions of dollars
Revenues		
Primary power and energy		
Municipal utilities	**4,373**	4,209
Rural retail customers	**1,297**	1,256
Direct industrial customers	**792**	790
	6,462	6,255
Secondary power and energy (note 1)	**22**	91
	6,484	6,346
Costs		
Operation, maintenance and administration	**1,927**	1,534
Fuel used for electric generation	**1,035**	1,132
Power purchased	**477**	230
Nuclear agreement - payback	**(15)**	1
Provincial government levies (note 2)	**235**	177
Depreciation (note 3)	**908**	845
	4,567	3,919
Income before financing charges	**1,917**	2,427
Financing charges		
Interest (note 4)	**1,803**	1,697
Foreign exchange	**(15)**	31
	1,788	1,728
Net income	**129**	699
Appropriation for:		
Debt retirement	**374**	357
Stabilization of rates and contingencies	**(245)**	342
	129	699

See accompanying summary of significant accounting policies and notes to financial statements.

as at December 31, 1990	**1990**	1989
		millions of dollars
ASSETS		
Fixed assets (note 5)		
Fixed assets in service	**32,497**	27,786
Less accumulated depreciation	**7,823**	7,017
	24,674	20,769
Construction in progress	**10,465**	11,593
	35,139	32,362
Current assets		
Accounts receivable	**751**	788
Fuel for electric generation (note 6)	**1,352**	1,108
Materials and supplies, at cost	**398**	339
	2,501	2,235
Other assets		
Unamortized debt costs	**248**	218
Unamortized advances for fuel supplies (note 7)	**709**	728
Unamortized deferred costs (note 8)	**227**	313
Long-term accounts receivable and other assets	**549**	421
	1,733	1,680
	39,373	36,277

See accompanying summary of significant accounting policies and notes to financial statements.

	1990	1989
		millions of dollars
LIABILITIES		
Long-term debt (note 9)	**27,701**	25,141
Current liabilities		
Bank indebtedness (note 10)	**622**	356
Accounts payable and accrued charges	**727**	919
Short-term notes payable	**108**	-
Accrued interest	**768**	742
Long-term debt payable within one year	**1,677**	1,661
	3,902	3,678
Other liabilities		
Long-term accounts payable and accrued charges	**230**	222
Accrued fixed asset removal and irradiated fuel disposal costs (note 11)	**1,124**	949
	1,354	1,171
CONTINGENCIES (notes 7 and 13)		
EQUITY		
Accumulated debt retirement appropriations	**4,301**	3,927
Reserve for stabilization of rates and contingencies	**1,988**	2,233
Contributions from the Province of Ontario as assistance for rural construction	**127**	127
	6,416	6,287
	39,373	36,277

On behalf of the Board of Directors

R6 Franklin

Chairman, President and
Chief Executive Officer

Vice-Chairman

Toronto, Canada,
March 11, 1991

for the year ended December 31, 1990

	Municipal Utilities	*Power District (Rural Retail and Direct Industrial Customers)*	**1990**	1989
		millions of dollars		
Balances at beginning of year	2,719	1,208	**3,927**	3,570
Appropriation	255	119	**374**	357
Balances at end of year	2,974	1,327	**4,301**	3,927

STATEMENT OF RESERVE FOR STABILIZATION OF RATES AND CONTINGENCIES

for the year ended December 31, 1990

	Held for the benefit of all customers	*Held for the benefit of certain groups of customers*				
		Municipal Utilities	*Rural Retail Customers*	*Direct Industrial Customers*	**1990**	1989
			millions of dollars			
Balances at beginning of year	2,217	1	13	2	**2,233**	1,891
Appropriation (withdrawal)	(250)	-	1	4	**(245)**	342
Balances at end of year	1,967	1	14	6	**1,988**	2,233

See accompanying summary of significant accounting policies and notes to financial statements.

STATEMENT OF SOURCE OF CASH USED FOR INVESTMENT IN FIXED ASSETS

for the year ended December 31, 1990	**1990**	1989
		millions of dollars
Cash provided from operations (note 12)	**754**	1,705
Cash provided from financing		
Long-term debt issued	**4,148**	3,221
Long-term debt retired	**(1,633)**	(2,059)
	2,515	1,162
Changes in cash and cash equivalents - decrease (note 12)	**374**	168
Cash provided from financing	**2,889**	1,330
Cash provided for investment in assets	**3,643**	3,035
Cash used for investment in other assets	**(51)**	(43)
Cash used for investment in fixed assets	**3,592**	2,992
Changes in accounts payable and accrued charges affecting investment in fixed assets - (decrease) increase	**(48)**	103
Investment in fixed assets (note 12)	**3,544**	3,095

See accompanying summary of significant accounting policies and notes to financial statements.

1. Secondary power and energy

Secondary power and energy revenues include $20 million (1989 - $87 million) from sales of electricity to United States utilities.

2. Provincial government levies

	1990	1989
	millions of dollars	
Provincial water rentals	**102**	95
Provincial debt guarantee fee	**133**	82
	235	177

Provincial government levies are the amounts charged by the Ontario provincial government for the debt guarantee fee and water rentals.

Provincial water rentals:
Provincial water rentals are the amounts paid to the Province of Ontario for the use of water for hydraulic generation.

Provincial debt guarantee fee:
In May 1989, the Province of Ontario legislated that Ontario Hydro is required to pay to the Province an annual debt guarantee fee of one half of one per cent on the total outstanding debt guaranteed by the Province as of the preceding December 31. For 1989, the fee of $82 million reflects the fact that the fee came into effect in May 1989.

3. Depreciation

	1990	1989
	millions of dollars	
Depreciation of fixed assets in service	**858**	792
Amortization of deferred costs	**39**	40
Fixed asset removal costs		
– provision for fuel channel removal costs	**55**	77
– provision for decommissioning costs	**32**	33
– other removal costs	**38**	22
	1,022	964
Less:		
Depreciation charged to – construction in progress	**59**	53
– heavy water production	**50**	51
– fuel for electric generation	**2**	2
Net gain on sales of fixed assets	**3**	13
	114	119
	908	845

4. Interest

	1990	1989
		millions of dollars
Interest on bonds, notes, and other debt	**3,096**	2,932
Interest on accrued fixed asset removal and irradiated fuel disposal costs	**108**	84
	3,204	3,016
Less:		
Interest charged to – construction in progress	**1,169**	1,016
– heavy water production	**71**	77
– fuel for electric generation	**78**	82
Interest earned on investments	**83**	144
	1,401	1,319
	1,803	1,697

5. Fixed assets

	1990		
	Assets in Service	*Accumulated Depreciation*	*Construction in Progress*
		millions of dollars	
Generating stations – hydraulic	**1,972**	**689**	**81**
– fossil	**3,992**	**1,630**	**527**
– nuclear	**13,545**	**2,118**	**7,718**
Heavy water	**2,907**	**340**	**1,181**
Transmission and distribution	**7,349**	**1,797**	**839**
Heavy water production facilities	**1,129**	**551**	**-**
Administration and service facilities	**1,603**	**698**	**119**
	32,497	**7,823**	**10,465**

	1989		
	Assets in Service	*Accumulated Depreciation*	*Construction in Progress*
		millions of dollars	
Generating stations – hydraulic	1,923	657	51
– fossil	3,732	1,539	169
– nuclear	10,874	1,785	8,837
Heavy water	2,507	294	1,316
Transmission and distribution	6,197	1,641	1,122
Heavy water production facilities	1,127	498	-
Administration and service facilities	1,426	603	98
	27,786	7,017	11,593

5. Fixed assets (continued)

A major portion of the construction in progress as at December 31, 1990 relates to the construction program for the Darlington nuclear generating station. The cost of construction in progress associated with this program, including heavy water, amounted to $8,268 million as at December 31, 1990 (1989 - $9,885 million).

Darlington Unit 2 was placed in-service for commercial operation in October 1990. The remaining three units are planned to be placed in-service by the end of 1993. When completed, the Darlington nuclear generating station will provide a total of 3,524 megawatts of dependable capacity. The estimated cost to complete the Darlington construction program is $1,882 million, including cost escalation and interest of approximately $1,197 million. Because of the uncertainties associated with long construction lead times and planned in-service dates, the estimated cost to complete the station is subject to change.

6. Fuel for electric generation

	1990	1989
	millions of dollars	
Inventories – uranium	733	700
– coal	518	396
– oil	101	12
	1,352	1,108

7. Unamortized advances for fuel supplies

	1990	1989
	millions of dollars	
Uranium – Rio Algom Limited	399	406
– Denison Mines Limited	310	322
	709	728

Unamortized advances for fuel supplies are recovered as fuel is delivered. Over the next five years, the amortization of advances for uranium supplies under the current amortization schedule is expected to be about $32 million for the contract with Rio Algom Limited and about $68 million for Denison Mines Limited (Denison).

Ontario Hydro has long-term contracts with Denison and Rio Algom Limited for uranium supplies through to 2012 and 2027, respectively. Ontario Hydro's current forecast of the annual requirements for uranium is about 1,800 megagrams for 1991, decreasing to about 1,700 megagrams by 1995. The uranium inventory as at December 31, 1990, plus the contracted deliveries through to the end of 1993 exceed the forecasted requirements to the end of 1993 by about 900 megagrams. Starting in 1994 through to 2012, contracted deliveries exceed forecasted requirements of the nuclear generating facilities currently in service and under construction by about 1,000 megagrams per year. Ontario Hydro's options for managing the oversupply include, under specified conditions, cancellation or renegotiation of the contracts. In the event that a contract is cancelled, the supplier is not required to refund any outstanding advances.

On March 11, 1991, Ontario Hydro's Board of Directors authorized management to notify Denison that under the terms of the Uranium Supply Contract (the Contract), the price for uranium concentrate be amended for 1991 and 1992. If Denison accepts the amended price, Ontario Hydro would be required to pay the amended price for uranium concentrate deliveries in 1991 and 1992. If Denison does not accept the amended price, Ontario Hydro may terminate the Contract effective December 31, 1992. However, at this time, the outcome with respect to the notification to Denison is not determinable. If the contract is terminated, it is expected that the outstanding advances and associated costs would not be charged directly to operations but, under the rate setting authority of Ontario Hydro's Board of Directors, would be deferred and amortized for recovery through future electricity rates.

8. Unamortized deferred costs

	1990	1989
	millions of dollars	
Bruce heavy water plant D	**111**	148
Wesleyville generating station	**7**	10
	118	158
Fuel oil contract	**58**	87
Coal purchase agreement	**51**	68
	227	313

Unamortized deferred costs are amounts from prior years that the Board of Directors, under its rate setting authority, has determined be deferred and amortized for recovery through electricity rates on a straight-line basis over a specified period of years. Accordingly, in 1990, $39 million and $46 million (1989 - $40 million and $46 million) were charged respectively to depreciation and fuel used for electric generation.

9. Long-term debt

	1990	1989
	millions of dollars	
Bonds and notes payable	**29,292**	26,694
Other long-term debt	**86**	108
	29,378	26,802
Less payable within one year	**1,677**	1,661
	27,701	25,141

Bonds and notes payable, expressed in Canadian dollars, are summarized by years of maturity and by the currency in which they are payable in the table shown on the following page.

9. Long-term debt (continued)

Years of Maturity	1990 Principal Outstanding			1990 Weighted Average Coupon Rate	1989 Principal Outstanding	1989 Weighted Average Coupon Rate
	Canadian	Foreign	Total		Total	
	millions of dollars			per cent	millions of dollars	per cent
1990	-	-	-		1,639	
1991	1,380	273	1,653		1,645	
1992	1,119	902	2,021		2,036	
1993	2,759	41	2,800		2,822	
1994	1,363	564	1,927		1,891	
1995	1,959	738	2,697		-	
1 - 5 years	8,580	2,518	11,098	11.0	10,033	11.0
6 - 10 years	5,908	623	6,531	10.0	5,416	9.6
11 - 15 years	2,541	968	3,509	11.2	3,651	11.6
16 - 20 years	3,446	1,835	5,281	10.4	5,368	10.0
21 - 25 years	971	902	1,873	13.2	2,226	13.5
26 - 30 years	1,000	-	1,000	10.9	-	-
	22,446	6,846	29,292	10.8	26,694	10.8

Currency in which payable:

Canadian dollars	22,446	19,936
United States dollars	6,846	6,753
United Kingdom pounds sterling	-	5
	29,292	26,694

Bonds and notes payable are either held, or guaranteed as to principal and interest, by the Province of Ontario.

Bonds and notes payable in United States dollars include Cdn. $5,056 million (1989 - Cdn. $5,096 million) of Ontario Hydro bonds held by the Province of Ontario and having terms identical with Province of Ontario issues sold in the United States on behalf of Ontario Hydro.

Ontario Hydro has entered into financial arrangements to hedge a portion of the foreign currency exposure related to principal and interest payments with respect to long-term debt. These arrangements are primarily in forward exchange contracts and foreign currency swap contracts.

Forward exchange contracts amounted to U.S. $1,128 million as at December 31, 1990 (1989 - U.S. $1,995 million), having a weighted average Canadian dollar exchange rate of 1.27 (1989 - 1.26). These forward exchange contracts hedge principal and interest payments amounting to U.S. $350 million due in 1991 and the remaining U.S. $778 million hedge principal and interest payments due over the period 1992 through 1998. In addition, foreign currency swap contracts exchange U.S. $850 million of principal and interest payments due over the period 1991 through 1995, into Cdn. $1,095 million.

9. Long-term debt (continued)

Other Long-Term Debt:	*Years of Maturity*	*Interest Rate*	1990	1989
		per cent	*millions of dollars*	
Balance due to Atomic Energy of Canada Limited on purchase of Bruce heavy water plant A	1992	7.8	**47**	67
Capitalized lease obligation for the Head Office building, payable in U.S. dollars	2005	8.0	**38**	40
Capitalized lease obligations for transport and service equipment	1991 to 1995	6.3 to 11.9	**1**	1
			86	108

Payments required on the above debt, excluding interest, will total $55 million over the next five years. The amount payable within one year is $24 million (1989 - $22 million).

10. Bank indebtedness

Bank indebtedness includes short-term bank lines of credit available to Ontario Hydro in the amount of $600 million. The lines of credit are unsecured and bear interest at the Canadian prime rate.

11. Accrued fixed asset removal and irradiated fuel disposal costs

	1990	1989
	millions of dollars	
Accrued fixed asset removal costs		
- accrued decommissioning costs	**330**	267
- accrued fuel channel removal costs	**278**	250
	608	517
Accrued irradiated fuel disposal costs	**516**	432
	1,124	949

Fixed asset removal costs:

Fixed asset removal costs are the costs of removing certain fuel channels, which are expected to be replaced during the life of the reactors, from the nuclear reactors, and the costs of decommissioning nuclear and fossil generating stations and heavy water production facilities after the end of their service lives. The significant assumptions used in estimating fixed asset removal costs were:

- removal of fuel channels in Pickering nuclear generating station A Units 3 and 4 in the 1989 to 1992 (1989 - 1989 to 1992) period; Bruce nuclear generating station A Units 1 and 2 in the 1993 to 1999 (1989 - 1996 to 2000) period and Units 3 and 4 in the 2002 to 2010 (1989 - 2002 to 2010) period; Pickering B in the 2012 to 2017 (1989 - 2012 to 2017) period; Bruce B in the 2014 to 2019 (1989 - 2014 to 2019) period; and Darlington nuclear generating station in the 2019 to 2024 period;

11. Accrued fixed asset removal and irradiated fuel disposal costs (continued)

- decommissioning of nuclear generating stations in the 2042 to 2065 period on the deferred dismantlement basis (dismantlement following storage with surveillance for a 30-year period after shutdown of the reactors), and a transportation distance of 1,000 kilometres from nuclear generating facilities to disposal facilities;
- dismantlement of Bruce heavy water plants A, B and D in the 1995 to 2005 period;
- interest rates through to 2065 ranging from 9% to 10% (1989 - 10% to 11%); and
- escalation rates through to 2065 ranging from 4% to 7% (1989 - 4% to 9%).

Because of possible changes to the above factors and the methods used for decommissioning and fuel channel removal, these costs are subject to revision.

Irradiated fuel disposal costs:

The significant assumptions used in estimating the future irradiated fuel disposal costs were:

- an in-service date of the year 2025 (1989 - 2010) for irradiated nuclear fuel disposal facilities;
- a transportation distance of 1,000 kilometres from nuclear generating facilities to disposal facilities;
- interest rates through to the disposal date ranging from 9% to 10% (1989 - 10% to 11%); and
- escalation rates through to the disposal date ranging from 4% to 7% (1989 - 4% to 9%).

Because of the uncertainties associated with the technology of disposal, and the above factors, these costs are subject to change.

12. Statement of source of cash used for investment in fixed assets

The statement of source of cash used for investment in fixed assets reports the investment in fixed assets resulting from the cash flows from operating and financing activities and the effects of changes in accounts payable and accrued charges affecting investment in fixed assets during the year. This statement focuses on the investment in fixed assets in view of Ontario Hydro's current level of construction activities which are financed from the two sources, cash provided from operations and cash provided from financing.

Cash provided from financing represents the amount of cash provided from the issuance of long-term debt, less the amount of cash used to retire long-term debt; and the effects of changes in cash and cash equivalents, defined to be cash and short-term investments less bank indebtedness and short-term notes payable.

The components of cash provided from operations and changes in cash and cash equivalents are summarized on the next page.

12. Statement of source of cash used for investment in fixed assets (continued)

	1990	1989
		millions of dollars
Cash provided from operations		
Net Income	**129**	699
Items not requiring cash in the current year:		
Depreciation	**908**	845
Amortization of foreign exchange gains and losses	**(48)**	(52)
Provision for irradiated fuel disposal costs	**35**	27
Other	**121**	178
	1,145	1,697
Changes in non-cash working capital and long-term accounts payable affecting operations - decrease (increase)	**(391)**	8
Cash provided from operations	**754**	1,705
Changes in cash and cash equivalents		
Bank indebtedness - increase	**266**	668
Short-term notes payable - increase (decrease)	**108**	(500)
Changes in cash and cash equivalents	**374**	168
Investment in fixed assets		
The reconciliation of the change in fixed assets during the year with the investment in fixed assets for the year is summarized below:		
Change in fixed assets	**2,777**	2,387
Depreciation of fixed assets in service	**858**	792
Less depreciation charged to heavy water production and construction in progress	**(108)**	(104)
	750	688
Net book value of fixed assets sold or retired	**17**	20
Investment in fixed assets	**3,544**	3,095

13. Pension, insurance and health care

Ontario Hydro's employee benefit programs include the pension plan, the group life insurance plan and the long-term disability plan. The assets of these plans and the changes in assets during the year are shown in the financial statements of The Pension and Insurance Fund and are not included in Ontario Hydro's financial statements.

Pension plan:

On March 30, 1990, the Ontario Hydro Employees' Union, Local 1000 of the Canadian Union of Public Employees - C.L.C. (OHEU) commenced a legal action in the Supreme Court of Ontario. The legal action requires that, among other things, Ontario Hydro comply with the statutory obligation to contribute the difference between the amount of the contributions of the employees and the amount of the cost of the pension benefits as determined by actuarial valuations for the years 1965, 1980 to 1985, and 1987 to 1989, plus pre-judgement interest. Ontario Hydro has filed a notice of appearance in response to the legal action. No amount has been accrued in the 1990 financial statements to provide for the contingency with respect to these years as, at this time, the results of the legal action are not determinable. However, as part of a two-year OHEU contract settlement which includes improvements to pension benefits, Ontario Hydro has agreed to pay $381 million into the Pension Plan over the period 1990 through 1992 in respect of the Corporation's contributions and related interest for all of the years in dispute through 1989. The amount includes $71 million paid by Ontario Hydro in January 1990 pursuant to the Court of Appeal decision regarding 1986 contributions by the Corporation. Interest is payable at The Pension Fund rate of return on the balance unpaid after April 27, 1990. The payments are made without prejudice to any legal defense Ontario Hydro may raise regarding the amounts which may be legally owing in respect of the years in dispute. The amount of $381 million and any additional amount that Ontario Hydro is required to contribute to the Pension Plan with respect to the years in dispute are to be charged to the accrued pension account in the statement of financial position. In the event that the accrued pension amount does not have future benefit to Ontario Hydro as determined in accordance with the recommendations of The Canadian Institute of Chartered Accountants, it is expected that management would request the Board of Directors to specify that such loss in value be deferred and amortized to future operations on a basis consistent with its inclusion in electricity prices.

The pension costs for 1990 were $165 million (1989 - $65 million). In 1990, about $124 million (1989 - $49 million) of the pension costs were charged to operations and $41 million (1989 - $16 million) were capitalized.

The pension costs for 1990 were actuarially determined for accounting purposes using the following significant assumptions which take into consideration the long-term nature of the pension plan:

- rate used to discount future pension benefits - 8.50% (1989 - 8.50%);
- rate used to estimate interest cost and return on investments - 8.50% (1989 - 8.50%);
- salary escalation rate - 7.00% (1989 - 7.00%);
- rate used to estimate improvements in pension benefits to partially offset the effect of increase in cost of living - 3.75% (1989 - 2.50%);
- average retirement age for males - 60.6 (1989 - 59.1) and for females - 61.5 (1989 - 60.2); and
- average remaining period of service of the employees - 16 years (1989 - 17 years).

Based on these assumptions, the actuarial present value of the accrued pension benefits is estimated to be $4,756 million as at December 31,1990 (1989 - $3,524 million), and the pension plan assets available for these benefits were $4,489 million (1989 - $3,882 million) based on a five-year market value average.

13. Pension, insurance and health care (continued)

Group life insurance plan:
The group life insurance plan had assets of $13 million as at December 31, 1990 (December 31, 1989 - $21 million). Effective April 1, 1986, the assets are being used to pay both the employee and employer insurance premiums for all members of the plan until such time as the assets are fully utilized.

Group health care plan:
Ontario Hydro provides a group health care plan to its employees. In 1990, the cost of providing these benefits was $37 million (1989 - $36 million).

Other post employment benefits:
In addition to pension benefits, Ontario Hydro provides group life insurance and health care benefits to its retired employees and, in certain cases, their surviving spouses and unmarried dependents. The cost of providing the group life insurance and health care benefits is charged to operations as incurred. In 1990, the cost of providing these benefits was $12 million (1989 - $12 million).

14. Research and development

In 1990 approximately $148 million of research and development costs were charged to operations and $16 million were capitalized (1989 - $112 million and $10 million, respectively).

15. Comparative figures

Certain of the 1989 comparative figures in the statement of source of cash used for investment in fixed assets have been reclassified to conform with the 1990 financial statement presentation.

	1990	1989	1988	1987	1986
			millions of dollars		
Revenues					
Primary power and energy					
Municipal utilities	**4,373**	4,209	3,824	3,441	3,116
Rural retail customers	**1,297**	1,256	1,103	968	885
Direct industrial customers	**792**	790	730	675	604
	6,462	6,255	5,657	5,084	4,605
Secondary power and energy	**22**	91	156	196	248
	6,484	6,346	5,813	5,280	4,853
Costs					
Operation, maintenance and administration	**1,927**	1,534	1,354	1,150	1,014
Fuel and fuel-related	**1,497**	1,363	1,190	1,223	1,003
Provincial government levies	**235**	177	91	85	86
Depreciation	**908**	845	811	723	705
	4,567	3,919	3,446	3,181	2,808
Income before financing charges	**1,917**	2,427	2,367	2,099	2,045
Financing charges					
Gross interest	**3,204**	3,016	2,845	2,744	2,684
Capitalized interest	**(1,318)**	(1,175)	(1,012)	(978)	(1,038)
Investment income	**(83)**	(144)	(93)	(64)	(61)
Foreign exchange	**(15)**	31	1	126	213
	1,788	1,728	1,741	1,828	1,798
Net income	**129**	699	626	271	247
			millions of dollars		
Financial position					
Total assets	**39,373**	36,277	34,358	32,657	31,357
Fixed assets	**35,139**	32,362	29,975	27,986	26,103
Long-term debt	**27,701**	25,141	24,240	23,862	23,494
Equity	**6,416**	6,287	5,588	4,962	4,691
			millions of dollars		
Cash flows					
Cash provided from operations	**754**	1,705	1,368	1,204	1,040
Cash provided from financing	**2,889**	1,330	1,350	1,397	1,475
Cash used for investment in fixed assets	**3,592**	2,992	2,673	2,452	2,585
Investment in fixed assets	**3,544**	3,095	2,689	2,524	2,523
Financial indicators					
Debt ratio[1]	**0.829**	0.817	0.829	0.836	0.835
Cash flow coverage[2]	**0.94**	1.16	1.19	1.08	1.05
Interest coverage[3]	**1.04**	1.24	1.23	1.10	1.09
			millions of kilowatt-hours		
Primary energy sales[4]					
Municipal utilities	**92,116**	93,715	89,607	84,058	80,026
Rural retail customers	**19,444**	19,767	18,365	16,599	16,279
Direct industrial customers	**19,315**	20,491	20,096	19,561	18,458
	130,875	133,973	128,068	120,218	114,763
Secondary energy sales[4]	**577**	2,292	5,019	6,515	6,046
Energy and Demand					
Installed dependable peak capacity (megawatts)[5]	**31,150**	30,271	30,333	30,080	30,701
December primary peak demand (megawatts)	**21,794**	23,630	23,012	20,524	20,609
Primary energy made available (millions of kilowatt-hours)[6]	**136,744**	140,770	134,395	126,455	120,574

	1990	1989	1988	1987	1986
Number of primary customers[4]					
Municipal utilities	**314**	315	316	316	316
Rural retail customers	**915,027**	891,304	863,039	835,937	813,193
Direct industrial customers	**113**	112	110	108	106
		in cents per kilowatt-hour of total energy sales			
Average revenue[4]					
Primary power and energy					
Municipal utilities	**4.747**	4.491	4.268	4.094	3.894
Rural retail customers	**7.352**	6.801	6.361	6.248	5.901
Direct industrial customers	**4.100**	3.855	3.633	3.451	3.272
All primary customers combined	**5.024**	4.715	4.453	4.268	4.058
Secondary power and energy	**3.813**	3.970	3.108	3.008	4.102
All classifications combined	**5.001**	4.702	4.402	4.203	4.060
		expressed as a per cent			
Average rate increases					
Municipal utilities	**6.1**	5.0	4.7	5.2	4.0
Rural retail customers	**5.3**	5.9	4.4	6.6	3.8
Direct industrial customers	**5.6**	6.0	5.2	5.6	4.3
All primary customers combined	**5.9**	5.3	4.7	5.5	4.0
Average cost[4] [7]		*in cents per kilowatt-hour of energy generated*			
Hydraulic					
Operation, maintenance and administration	**.271**	.275	.270	.276	.213
Water rentals	**.303**	.287	.274	.285	.243
Depreciation, debt guarantee fee and financing charges	**.373**	.389	.386	.465	.413
	.947	.951	.930	1.026	.869
Nuclear					
Operation, maintenance and administration	**1.100**	.739	.623	.508	.481
Uranium	**.490**	.458	.453	.481	.481
Depreciation, debt guarantee fee and financing charges	**2.631**	2.241	2.078	2.193	2.073
	4.221	3.438	3.154	3.182	3.035
Fossil					
Operation, maintenance and administration	**.899**	.600	.530	.488	.550
Coal, gas and oil	**2.479**	2.217	2.258	2.600	2.746
Depreciation, debt guarantee fee and financing charges	**1.274**	.931	.918	.933	1.367
	4.652	3.748	3.706	4.021	4.663
Average number of employees					
Regular	**26,821**	25,147	24,543	24,066	23,373
Non-regular[8]	**9,653**	8,929	7,930	8,081	9,032

(1) Debt ratio represents debt (bonds and notes payable, short-term notes payable, other long-term debt, accrued fixed asset removal and irradiated fuel disposal costs and bank indebtedness less unamortized foreign exchange gains and losses) divided by debt plus equity.

(2) Cash flow coverage ratio represents funds provided from operations plus net interest, and interest charged to fuel for electric generation less interest on accrued provisions divided by interest on bonds, notes and other debt.

(3) Interest coverage represents net income plus interest on bonds, notes, and other debt divided by interest on bonds, notes and other debt.

(4) Figures for 1990 are preliminary.

(5) Installed dependable peak capacity represents the net output power supplied by all generating units, and includes non-operating reserve facilities: 1990 - 1,551 megawatts; 1989 - 2,109 megawatts; 1988 - 2,109 megawatts; 1987 - 2,667 megawatts; and 1986 - 3,784 megawatts. Also included are net firm power purchase contracts.

(6) Primary energy made available represents primary energy sales plus transmission losses and energy used for heavy water production and generation projects.

(7) Average cost per kilowatt-hour represents the costs attributable to generation but excludes the costs related to transmission, distribution and corporate administrative activities. These figures reflect the historical accounting costs of operating facilities and the actual energy generated by these facilities during the year.

(8) The majority of non-regular staff are construction trades persons.

FIVE-YEAR SUMMARY OF STATISTICS – CUSTOMERS SERVED BY ONTARIO HYDRO AND ASSOCIATED MUNICIPAL UTILITIES

	1990[1]	1989	1988	1987	1986
			in thousands		
Total number of customers					
Residential	**3,100**	3,062	2,958	2,868	2,781
Farm	**105**	105	106	106	106
Commercial and industrial	**420**	407	392	377	365
	3,625	3,574	3,456	3,351	3,252
			in kilowatt-hours per customer		
Average annual use					
Residential	**11,500**	11,856	11,588	11,019	10,909
Farm	**23,933**	24,762	24,795	23,547	23,004
Commercial and industrial	**220,000**	225,103	224,705	220,834	216,666
			in cents per kilowatt-hour		
Average revenue					
Residential	**6.93**	6.50	6.22	5.98	5.63
Farm	**7.41**	7.06	6.67	6.48	6.00
Commercial and industrial	**5.22**	4.88	4.62	4.40	4.20
All customers	**5.56**	5.37	5.10	4.87	4.63

(1) Figures for 1990 are preliminary.

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Felix P. Chee

Regional Directors

Central Wholesale Region

C. Gord Sanford
5760 Yonge Street,
Willowdale M2M 3T7

Eastern Region

Dave J. Mills (Acting)
420 Dundas Street East,
Belleville K8N 5C3

Northeastern Region

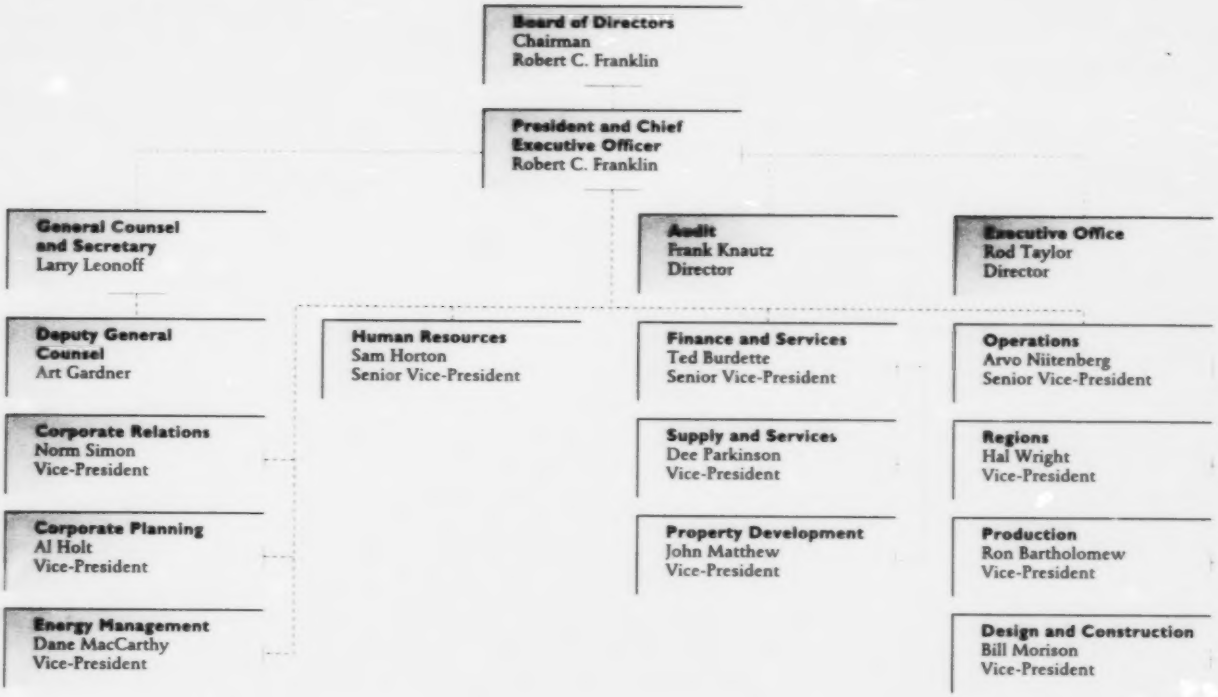
Guy R. (Bud) Barrett
590 Graham Drive,
North Bay P1B 8L4

Northwestern Region

Larry V. Doran
34 Cumberland Street North,
Thunder Bay P7A 4L5

Western Region

Dr. David A. Drinkwalter
1075 Wellington Road,
London N6E 1M1



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